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The Builder, October 7, 1949
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THE BUILDER

a Journal for the
ARCHITECT & CONSTRUCTOR

No. 5564. 107th Year. FRIDAY, OCTOBER 7, 1949 ONE SHILLING

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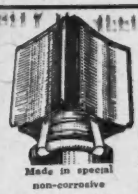
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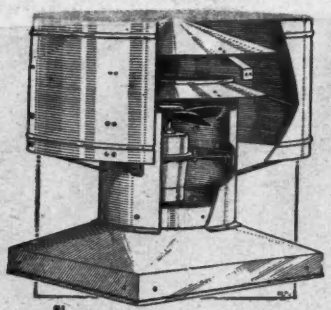

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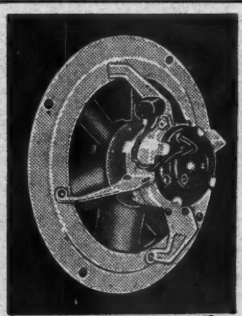

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CHANGING LONDON

A series specially drawn for "The Builder" by H. Frank Hoar

1.—Horse Guards Avenue, showing Mr. Vincent Harris's new Government Offices on the left. In the centre background is the War Office and on the right Whitehall Court.

THE BUILDER

INCORPORATING

"ARCHITECTURE" and "THE BRITISH ARCHITECT"

VOL. CLXXVII OCTOBER 7, 1949 No. 5564

THIS WEEK'S NEWS

PAGE

ARCHITECTURE on the recently electrified Liverpool-street-Shenfield Line is described in a contributed article by E. G. Adams, A.R.I.B.A. 442

AN EXHIBITION of photographs of Italian buildings of historic interest opens at the Royal Institute of British Architects to-day. The photographs were taken by Mr. Ralph Deakin. 444

ARRANGEMENTS whereby selected graduates of American schools of architecture may be admitted without qualifying examination to the Ecole des Beaux-Arts are announced by the American Institute of Architects. 445

A DETAILED REVIEW of the progress being made at Crawley New Town was given at a Tunbridge Wells Building Week meeting by Sir Thomas Bennett, C.B.E., F.R.I.B.A., chairman of Crawley Development Corporation, who, at the beginning of his address, referred to the present complicated administrative machinery for getting final approval of schemes. He suggested it would be a great service to the country if a committee of the Ministry of Town and Country Planning or the Ministry of Works could simplify the machine. 456

THE VIEW that the widening field of building science and research since the war may ultimately lead to much more change in many sides of the industry was expressed by Dr. T. W. Parker, F.R.I.C., Deputy Director of Building Research, B.R.S., at a meeting held at Tunbridge Wells. 457

IN RECOGNITION of his year of office as President of the National Federation of Building Trades Employers a joint presentation was made on September 28 by the East Grinstead and District and Horsham and District associations to Mr. Norman Longley, M.I.O.B. 459

THE NEED for an educational drive to convince the tradesman that by adopting a process or method which gives higher productivity per man/hour he definitely assists the national interest was emphasised by Mr. R. R. Sillifant in his presidential address to the North London branch of the Institute of Welding. By this means, he added, it should be possible to convince all tradesmen that there were qualities of labour, and that, in general, the highest quality of labour could command the highest price. 459

THE REMOVAL of import licensing restrictions from a wide range of goods, including a number used in the building and allied trades, has been announced. 461

MR. HAROLD WILSON, President of the Board of Trade, speaking at New Brighton on October 2, said that new measures for tightening up the control of timber would be announced "within the next few days." 465

THE SUPPLY to the United Kingdom in the first year of essential goods to the value of £4.8 million, including 15,000 standards of softwood, is provided for in the Trade and Financial Agreement between this country and Czechoslovakia signed in London on September 28. 465

HORIZONTAL AND VERTICAL

IS contemporary architecture too much dominated by a formula? Anyone who studies the work which he sees going on around him, or quizzes the illustrations of current buildings in the professional Press, will be inclined to say that the answer is in the affirmative. Flats, factories, schools and the occasional blocks of business premises which are allowed to proceed often have a strong family likeness. The formula generally includes a vertical feature containing the entrance hall and staircase, often wholly glazed, with a horizontal wing or wings. Windows are in long horizontal strips, or separated by thin piers and surrounded by a bare framework. There is no cornice; roofs are flat; and the only concession to decoration is perhaps a piece of sculpture over the entrance doorway. Walls, owing to the use of a structural frame, are no more than a cladding, while if the cantilever principle is adopted they are a mere curtain—like hangings. During the Renaissance period internal convenience was often sacrificed to external effect; to-day the plan and the structural frame are the dominant factors, and elevations are often no more than a functional expression of the internal arrangements.

The general impression is that elevations are becoming predominantly horizontal. This, of course, is no new thing in principle. Tudor, Elizabethan and other period buildings often had their long, low ranges of windows, producing a horizontal rather than a vertical effect, but there was generally some vertical compensation. In contrast, some buildings of the later Renaissance period, by the plentiful employment of columns, pilasters and tall, narrow windows, appear to be more vertical than horizontal, notwithstanding a great width of frontage; the south elevation of Castle Howard may be cited as an example. But generally speaking, eighteenth-century architecture in this country has its solids and voids so well disposed and proportioned that neither dimension appears to dominate unduly.

We can attribute much of our modern elevational troubles to the introduction of reinforced concrete and the steel frame. The first wholly reinforced concrete building erected in this country, *circa* 1906–8, the extension to the General Post Office in Newgate-street, was not unexpectedly cased in ashlar and tricked out with Renaissance features as though it were a traditional masonry structure; and that illogical practice persisted, to an extent, not only for reinforced concrete but for steel-framed structures, almost up to the outbreak of the recent war. To-day, as though in revulsion, we have carried logic to the extreme and the frame is triumphant. Even where the walls are load-bearing the fashionable horizontal treatment of the elevations often prevails.

Notwithstanding the development of new methods of construction and new materials, it is safe to say that a considerable amount of traditional building will continue to be done for many years, and there is surely no reason why this at least should not be allowed to display those good proportions which are characteristic of our best traditional architecture. There is still need for scholarship, notwithstanding the dominance of modernity. Professor Corfiato touched on this point in the thoughtful article on "Scholarship in Architecture" which he contributed to a recent number of *The Builder*. "To create true architecture," he wrote, "it is not sufficient that a given problem should be structurally solved; it is necessary

that something more, additional to æsthetic merits, should be present. Spiritual values must be present. A school of thought has come to the conclusion (and one wonders why) that to make use of possibilities of materials other than reinforced concrete and glass is to commit some sort of capital sin. A country rich in materials which have survived the test of time is rich in examples, the study of which at least shows that the suppression of the vault and arch and the imposition of the rigidity of the straight line is no proof of progress. As a matter of fact, a curve is a natural attribute to beauty. Substitute materials such as facing skins to conceal reinforced concrete result in a lack of that primordial quality—monumentality." It is strange that we should still be experimenting with facings for reinforced concrete; one would have thought that with all our scientific research a method would by now have been found of making concrete itself an æsthetically attractive material. What additional interest the Festival of Britain concert hall on the South Bank would possess if it could dispense with an ashlar facing.

The time is approaching, if indeed it has not already arrived, when the whole question of elevational treatments will be a matter of urgency. New towns are being built and old ones need to be rebuilt, at least in part. Street elevations should be designed to "live" together instead of being jarring units, as they often are. The powers of control over elevational design given to planning authorities under the Town and Country Planning Act will no doubt be wisely exercised, but they ought not to be necessary in a well-ordered society. Architects can help to render them obsolete by giving closer study to the design of elevations. Modern architecture will never be what it might be while it is over-dominated by one dimension. What seems to be most needed in elevations to-day is a better marriage of the horizontal and the vertical. While no intelligent person wishes to see a mere thoughtless revival of any historic style, it is clear that the past still has much to teach us about the finesse of good elevational design, and it is for this reason that scholarship will never be unnecessary to the complete architect, and, therefore, never out of fashion.

NOTES AND NEWS

Marseilles Magnum Opus.

AN architect returning from the south of France tells us that the already famous block of flats at Marseilles by Le Corbusier is showing definite signs of progress, and even now a rough idea can be obtained of the eventual look of the building. This design is of the utmost significance, for on it will undoubtedly rest the reputation of Le Corbusier as an architect and social theorist. It is as the latter that he has so many critics. For many years now the subject of design for mass living has occupied much of Le Corbusier's interest. People have been known to criticise this viewpoint on the grounds that architects should plan buildings for people and not the lives of the people who inhabit them. It is a fine point, for the modern architect working on large-scale housing has obviously a great deal more than the broad design and construction of the building to contend with. One might even criticise the frequent passiveness of architects in the past to social problems connected with their work, but until recent years, especially in this country, the scope for social design was limited. Le Corbusier, however, is attempting at Marseilles to create a concrete exemplar of the trend of his mind; his building will indicate how he thinks the world should live. Certainly the virtually self-contained community block has its followers, but it will only be when the building is completed that a final assessment of its worth can be made.

Credit must be given to Le Corbusier in that he has made the design appear to be of such importance, for from many points of view it is hardly revolutionary at all. For example, concrete flats have certainly been built before; the number of storeys is a mere technicality; and many blocks of luxury flats in the States and elsewhere can boast of many of the amenities that have received such a "write up" in connection with the Marseilles project. However, this new scheme is invested with the glamour which invariably seems to attend Le Corbusier's work, and we will end by quoting an American architect who recently said: "After all one hears about it, and the ideas behind it, when it is finished it had better be good!"

New C.L.B. and W.D.C. Chairman.

SIR THOMAS PHILLIPS has been appointed chairman of the Central Land Board and the War Damage Commission in succession to Sir Malcolm Trustram Eve, whose resignation was announced towards the end of last month. Sir Thomas Phillips was formerly secretary of the Ministry of National Insurance and last year was appointed chairman of the Building Industry Working Party.

W. D. Commission Retirement.

MR. J. MASON ALLAN, I.S.O., manager of the War Damage Commission's office in Edinburgh since March, 1945, is retiring at the end of this month.

The volume of the Commission's work in Scotland, which fortunately was never on as heavy a scale as elsewhere in Great Britain, has declined and is considered to be no longer sufficient to justify a new appointment, and especially so since the staff became merged with that of the Scottish headquarters of the Central Land Board. The average weekly amount of "cost of works" payments being made at the present time is only £7,500, compared with £1,330,000 for Great Britain (or 0.6 per cent.), and the number of value payments outstanding is 73 (0.6 per cent. of the total).

No Room for Architecture?

MR. J. B. PRIESTLEY, in his latest play, "Summer Day's Dream," sees the England of 1975 as a country completely devoid of architects. The play, which is an imaginary representation of post-atomic war life, shows England assuming an almost pastoral quality; progressive living, as we know it to-day, has passed and simplicity of thought and action is the keynote. People still live in lovely old Georgian houses (always the acme of gracious living!) but there is no further use for new buildings (the life blood of the architectural profession!) because the population of the country has been reduced to a comparatively small figure by the war.

Imaginative works of this sort must, of course, overlook many issues of startling importance to almost everybody. Another major war may never occur, but the possibility is undeniable and we may wonder if, in the event of another war, the cause of architecture would survive to any appreciable degree. It is very strong food for thought.

Many believe, however, that it is within the power of architects and planners to contribute towards a world which can be freed from war, not least by taking a wide international view of the art and joining with architects from other countries in striving for a higher standard of the design for living.

The Industry and the Public.

WHEN it is recalled that building work to an annual value of nearly one thousand million pounds is being carried out in this country it is surprising that so few of the general public have more than a passing notion of how this vast industry is organised and operated. The reason may simply be that past efforts to publicise the story of the building industry have neglected the need to impart information in a manner easily understood by the lay mind. Exhibitions and literature dealing with building have been specifically intended for members of the industry or certain sections of it and any appeal they may have contained for ordinary people has been quite accidental.

No industry can hope to reach the highest peak of efficiency and productivity without some understanding on the part of the public of its tasks and difficulties, and the recent Tunbridge Wells Building Week was an outstanding example of how that understanding and interest may be fostered.

Now His Majesty's Stationery Office has published "Building in Britain To-day" (price 6d.), an illustrated booklet which tells in simple, straightforward style how the work of the building industry touches the daily lives of every man, woman and child in the country. Details are given of the numbers of houses built, the power stations', factories', hospitals' and schools' programmes and war damage repairs. A special chapter is devoted to the craftsmen who actually carry out these works. Emphasis is laid on the team work which makes the steady progress of the industry possible, and the places in the team of the architect, surveyor, planner and scientific research worker are fully described.

The industry's achievements so far, however, are but a part of the vast works ahead, and Sir Luke Fawcett, President of the N.F.B.T.O., contributes a special message on future tasks, for the successful completion of which, he says, the spirit of co-operation must become the motive force throughout the entire building industry. "Building in Britain To-day" is an important step towards ensuring the co-operation of the public, which is equally essential.

City Redevelopment.

THE Common Council of the City of London on September 22 agreed to proposals which form the first stage in the reconstruction of the City. It was decided that the land to the east of St. Paul's Cathedral, bounded by St. Paul's Churchyard, Cheapside, Bread-street, and

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Cannon-street, should be selected as redevelopment unit No. 1, and that a compulsory purchase order be made. Details of the proposals were given in *The Builder* of September 16.

Church Window Designs.

MR. HUGH EASTON has presented to the court of the master and wardens of the Worshipful Company of Glaziers and Painters of Glass, the designs for the window which the Company is presenting to the church of St. Bartholomew-the-Less.

Good Planning.

A NOTABLE feature of the Scottish Industries Exhibition at Glasgow was the high quality of design for the stands. Here is an example of a logically planned exhibition with stands that, while possessing individual qualities, fit into the general pattern of the show with unobtrusive good taste. In some quarters many of the stands have been criticised on the grounds that they exhibit too much current cliché, but to us this is not the worst of faults and many of the designs are extremely diverting in their use of materials. The exhibition architect, Mr. Basil Spence, is to be congratulated on his lively work at Glasgow, and for setting a new high standard in exhibition design.

Mr. Spence has now been appointed architect for the Heavy Industries section of the Festival of Britain, 1951, which is to be held in Glasgow.

Crawley's First Factory.

THE first building agreement for a factory to be erected by a London firm in the industrial area of Crawley New Town was signed on September 23, at the London headquarters of the Ministry of Town and Country Planning.

The agreement, which covers the erection of the first of the new factories in any of the new towns, was signed for the Corporation by the chairman, Sir Thomas Bennett, C.B.E., F.R.I.B.A., and by the managing director of the company.

Dry Rot Exhibition.

OWING to the interest shown in the "Dry Rot in Buildings" Exhibition at the Building Centre, 9, Conduit-street, W.1, it has been decided to postpone the closing date to October 15. The exhibition will be open daily from 10 a.m. to 5 p.m. (Saturdays 10 a.m. to 1 p.m.). There will be continuous showings of the two films "Dry Rot in Buildings" and "The Death Watch Beetle," on Thursday and Friday, October 13 and 14.

Stone-masons of the Future.

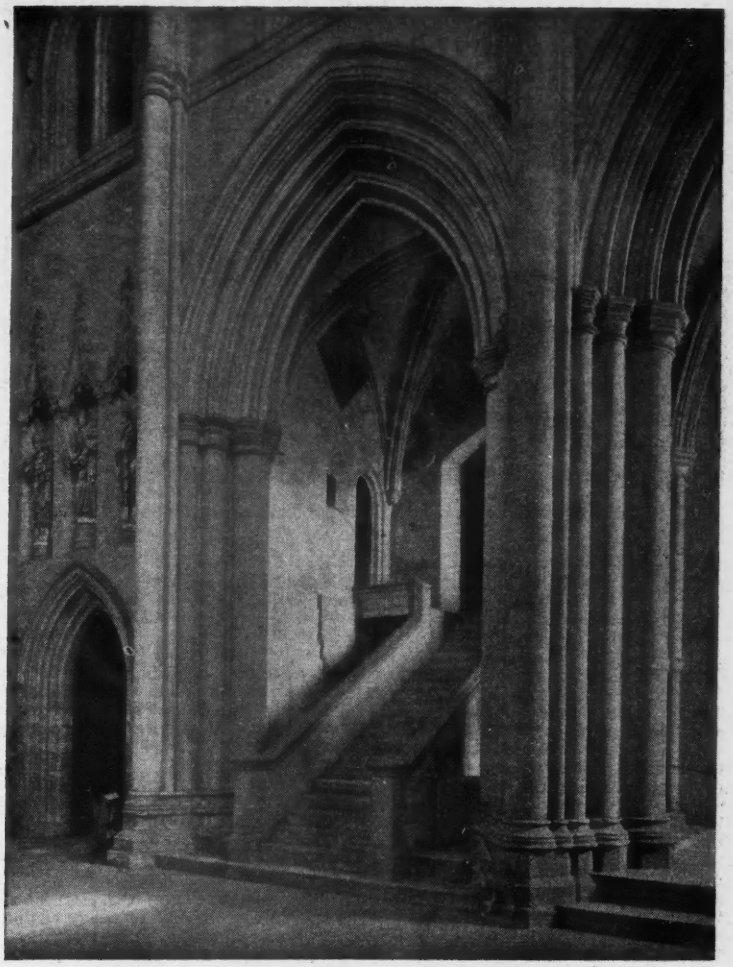
FIFTY young stone-masons had a succession of half-a-dozen "pep" talks fired off at them in quick succession at the prize-giving, by the Master of the Worshipful Company of Masons, at the L.M.B.A. headquarters last week. All the speeches were short and to the point, rare occurrence on such occasions, and the boys, prize-winners and unsuccessful candidates alike, took them in good part and applauded. A report is given in this issue.

Professional Announcements.

MR. HENRY BRADDOCK, A.R.I.B.A., announces that he will be setting up independent practice at the end of this year. Until then he will remain in association with Mr. Arthur W. Kenyon, C.B.E., F.R.I.B.A., at 15, Adeline-place, Bedford-square, W.C.1.

MR. MICHAEL BUNNEY, M.A., F.R.I.B.A., and MRS. CHARLOTTE BUNNEY, A.R.I.B.A., are now practising from 30, Lowther-street, Kendal.

MR. HAROLD S. BARNETT, L.R.I.B.A., has resigned from the North Thames Gas Board upon being appointed divisional architect to the National Coal Board, East Midlands Division. His office is at 18, Milton-street, Nottingham, where he will be pleased to receive trade catalogues, etc.



THE STAIRS TO THE CHAPTER HOUSE, RIPON CATHEDRAL.
From a photograph by Herbert Felton, F.R.P.S.

COMING EVENTS

Friday, October 7.

R.I.B.A.—An exhibition of photographs of Italian buildings of historic interest, photographed by Mr. Ralph Deakin, 66, Portland-place, W.1. Continuing until October 29.

LONDON BUILDERS' FOREMEN'S ASSOCIATION.—"Incentives in the building industry," by Mr. D. E. Woodbine Parish, F.I.O.B. Memorial Hall, Farringdon-street, E.C.4. 6 p.m.

Saturday, October 8.

ECCLESIOLOGICAL SOCIETY.—A visit to the chapel and painted hall of the Royal Naval College, Greenwich, and afterwards to Trinity Hospital Chapel, Old Woolwich-road. 2.30 p.m.

Monday, October 10.

LONDON MASTER BUILDERS' ASSOCIATION.—A luncheon to be attended by the Lord Mayor of London, Alderman Sir George Aylwen. Savoy Hotel, Strand. 1 p.m.

INSTITUTE OF QUANTITY SURVEYORS (JUNIOR SECTION).—A discussion on the Institute's examinations, at which the principal speaker will be Mr. R. D. Wood, LL.B. 98, Gloucester-place, W.1. 6.30 p.m.

Tuesday, October 11.

R.I.B.A. ARCHITECTURAL SCIENCE BOARD.—Mr. L. W. Elliott, A.M.Inst.C.E., A.R.I.B.A., on "Economy in the Use of Steel in Building." 66, Portland-place, W.1. 6 p.m. (Light refreshments from 5.5 p.m.)

BUILDERS' CLERKS' BENEVOLENT INSTITUTION.—63rd annual dinner presided over by Mr. H. J. Falkus, M.I.O.B. Café Royal, Regent-street, W.1. 6 p.m.

Wednesday, October 12.

L.M.B.A. (CENTRAL AREA No. 1).—Mr. D. E. Woodbine Parish, F.I.O.B., on "The Position of the General Foreman in the Building Industry." Derry and Tom's Restaurant, Kensington High-street, W.8. 1 p.m.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS.—Autumn general meeting and a paper entitled "A Study of Air Flow, Ventilation and Air Change in Small Rooms as Effected by Open Fireplaces and Ventilation Ducts," by Dr. T. C. Angus, D.Sc., A.M.I.E.E. Institution of Mechanical Engineers, Storey's-gate, S.W.1. 6 p.m.

Thursday, October 13.

INSTITUTION OF STRUCTURAL ENGINEERS.—A meeting at which Mr. Leslie Turner, B.Sc., M.I.C.E., will give his presidential address. 11, Upper Belgrave-street, S.W.1. 6 p.m.

ROYAL INSTITUTION OF CHARTERED SURVEYORS (JUNIOR ORGANISATION).—"The pay-off: Valuations and Settlements of Contracts," by Mr. H. A. Ackland, O.B.E., F.R.I.C.S. Talbot Restaurant, London Wall, E.C.2. 7.30 p.m.

Friday, October 14.

ARCHITECTS' REGISTRATION COUNCIL OF THE UNITED KINGDOM.—Meeting of Council. 66, Portland-place, W.1. 2 p.m.

FROM "THE BUILDER" OF 1849

Saturday, October 6, 1849.

WATER FOR THE TOWER OF LONDON.—The pernicious properties of the water heretofore supplied to the soldiers have induced the forwarding of arrangements whereby a limited supply of pure spring water has been introduced for the present. It is to be used for drinking and cooking alone, as it does not exceed 2,000 gallons a day. It is said the Duke of Wellington has induced the Woods and Forests to agree to bore an artesian well in the Tower for supply of the garrison.

Chadwell Heath control room, showing main entrance and east wing.

Architecture on the Liverpool Street-Shenfield Line

By E. G. ADAMS, A.R.I.B.A.

THE opening ceremony by the Minister of Transport at Liverpool-street Station on September 26 was the culmination of a project first announced in 1936. The line from Liverpool-street to Shenfield first saw light as part of a proposed London-Norwich line in 1834, which was completed as far as Romford by 1839. The railway, which became the Great Eastern in 1862, developed throughout the century and by 1910 carried more suburban passengers than any other line. Although the considerable growth of population in the north-east suburbs was met by additional tracks and other improvements, it was eventually clear that only electrification of the line could cope with the traffic problem.

Two complementary programmes were drawn up to meet the demand for passenger transport in this area—one, to electrify the L.N.E.R. line from Liverpool-street to Shenfield and, two, to extend the Central Line of the London Passenger Transport Board from Liverpool-street to Stratford, Loughton, Ongar and Newbury Park. The then L.N.E.R. commenced the scheme in 1937. It was well advanced by 1940, when the war held up progress and caused heavy damage, particularly from V weapons. The programme was resumed in 1946 and a great effort made to bring it to completion.

The carrying-out of the electrification required a great deal of heavy engineering work, including the alteration of platforms and the rebuilding of bridges. The building work included the erection of a number of new signal-boxes, six new sub-stations, a control line at Chadwell Heath, carriage sheds at Ilford, and the reconstruction of the stations at Stratford, Maryland, Forest Gate and Manor Park.

The overhead system of electrification was adopted, for the sake of economy. This method necessitates the erection of steel bridge structures at intervals of about 210 feet to support the overhead equipment. These structures on the Shenfield extension are painted an unobtrusive grey and in the industrialised urban scene are not over prominent, but they would obviously be less excusable in a landscape of any quality. Each track has to have its own overhead line and the supporting structures are carried through the stations. The normal height of the contact wire on the overhead line is about 16 ft. above the rail on an open line.

The work at Liverpool-street has involved the clearing of the eastern concourse and the provision of overhead gear for platforms Nos. 11-18, although Nos. 15-18 only will normally be used for electric trains. Platforms Nos. 5, 7, 8 and 11-15 had to be lengthened and the trackwork remodelled to take main line trains displaced from platforms Nos. 15-18. New platform indicators showing starting time, destination and stopping points have been erected at the entrances to platforms Nos. 15-18. This part of Liverpool-street has recently been improved by the construction of attractive well-lit refreshment and waiting rooms decorated externally in cream and green which help to mitigate the proverbial gloom of this London terminus.

The reconstruction of Maryland, Forest Gate and Manor Park Stations resulted from the erection of a fly-over viaduct on the London side of Ilford Station to carry the "local" lines over the "through" lines so that the electric service to London would not be interrupted. Messrs. T. P. Bennett and Son were consultant architects for the station buildings, which also included Stratford, an important point in the system because here is located the interchange with the extended London Tube, for which additional platforms had to be built.

The rebuilt stations reveal a strong "Tube" influence and look as though they will resist heavy wear. The station buildings are faced with cream faïence with a dark blue skirting. The waiting rooms have semi-circular bay windows round which runs the oak seating. All the joinery is in unpainted oak. The platform awnings are constructed with

Goodmayes signal box.

Maryland Station.

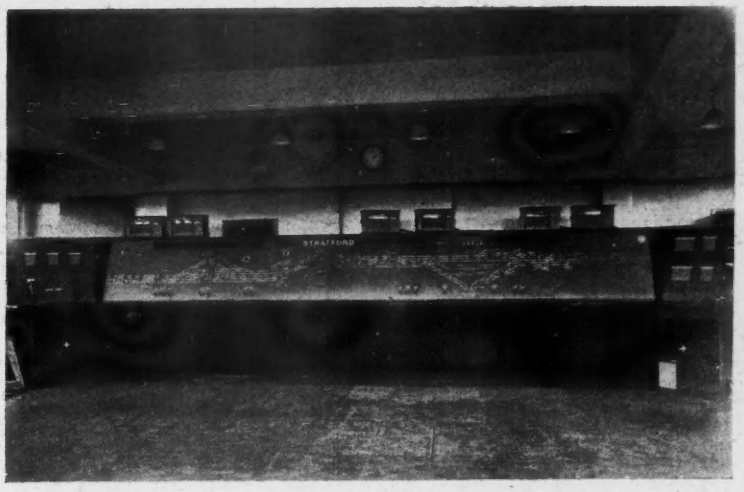
steel girders carried by a double row of steel columns and roofed with asbestos cement decking. These apparently were the work of the Civil Engineer's Department of the Eastern Region. It is a pity they could not have been treated more pleasantly or, better still, constructed of shell concrete. The frequent columns are an awkward obstruction. The lettering on the stations is in blue and white, the Regional colours, and maintains a high standard. The identity of the station is declared at night by illuminated signs recessed into the walls. Lighting is by well-designed fluorescent fittings, also bearing the name of the station.

Station Redesigned.

Maryland Station has been almost entirely redesigned. It has a booking hall at street level, from which a bridge with three staircases gives access to the platforms at a lower level. The street elevation, like the platform buildings and the hall, is faced with light-coloured faïence. The booking-hall is lit by clearstorey windows, and has the booking office on one side with a large glazed area and ticket racks on the back wall. Opposite are shops, and in the centre a tiled feature incorporating automatic machines, with a large clock above. The ceiling is lined with perforated acoustic tiling. The staircases leading down to the platforms are painted cream with a green dado and oak handrails.

An interesting section of the Stratford rebuilding is the impressive, spacious subway which leads from the stairs down from the electric platforms to the booking hall and the main line trains. The subway has tiled walls, as a background to a poster display, and a ceiling of cream-painted fibreboard with metal cover fillets, and is lit by fluorescent tubes. The other stations to Shenfield, which remain unaltered, have been repainted in the prevalent cream and light green, and provided with fluorescent lighting.

The signal-boxes are based on the most modern methods. Each box has a route diagram and signal, and point levers are replaced by switches which set the route and clear the signals. A governing requirement of the signal-boxes was the need for maximum window space, which has been achieved, as can be seen at Goodmayes. Each signal-box is provided with a messroom and lockers, and its own hot-water system from an individual boiler-house. The building of these all-electric signal-boxes made it possible to scrap 31 mechanically operated boxes. The electric colour signals and junction indicators form important features in the railway scene. The two largest boxes are at Stratford and Liverpool-street. The latter has been cantilevered out over the lines for almost half its width on cranked steel beams, and has a continuous window on three sides.



Stratford signal-box, showing "A" and "B" panels, "NX" type.

The Sub-Stations.

The six sub-stations are to a standard design, with light red brick walls, reinforced concrete roofs and glass brick panels. Their design called for great accuracy, working to 1/16th of an inch to accommodate the necessary equipment. Each sub-station contains mercury arc rectifier equipment for converting the incoming 33,000-volt three-phase alternating current to 1,500-volt direct current. The rectifiers are the pumpless steel tank type, and a total capacity of 30,000 k.w. of rectifier plant has been installed.

In addition to the sub-stations there are four track sectioning cabins equipped with high-speed circuit breakers connected so as to enable the overhead line to be divided into the correct lengths for protection in the event of a fault and to facilitate sectionalising of the line if required. Both the sub-stations and the cabins are unattended, being controlled from the centre at Chadwell Heath. This centre is continuously manned by two operators. It comprises a large central control room, with concealed lighting, containing a diagram of the electrification. This room is the "nerve centre" for the supply and distribution of energy for the scheme. Two flanking wings contain staff and messrooms. This building is simply and pleasantly designed and is far superior to most of the (non-railway) architecture to be seen from the train on this line.

Chadwell Heath control room, showing control desk and mimic diagram.

The new carriage sheds at Ilford were designed by the Civil Engineer and are constructed with reinforced concrete columns supporting steel trusses. An uninterrupted length of window runs between the series of columns. In these sheds the trains are stabled, cleaned, inspected and repaired. The repair shop contains two 25-ton overhead travelling cranes, a machine shop, stores, fitting shop, battery room and compressor room. The inspection shed has specially designed pits with fluorescent lighting, and the cleaning shed is provided with platforms equipped with vacuum, hot and cold water and electric points for cleaning of trains.

The need for greater overhead clearance and the widening of the track have meant the alteration and rebuilding of many bridges, but have not produced any striking results. The arches of Wheeler-street bridge have been replaced by a two-span horizontal structure with plain brick parapet and stone coping.

The new steel coaches are efficiently designed, and like the Tube coaches embody both lateral and longitudinal seating. Thermostatically controlled heaters are fitted under the seats and the lighting is by bowl fittings on the ceiling. The coaches are roomy and the anticipated strap-hangers are generously catered for—a sad reflection on the comfortlessness of contemporary city travel.

The service at the moment is a partial replacement of steam trains, but with the completed programme in Spring, 1950, there will be 21 trains an hour out of Liverpool-street Station.

ITALIAN ARCHITECTURE

An Exhibition of Photographs at the R.I.B.A.

AN exhibition of photographs of buildings of historic interest in Italy, taken by Mr. Ralph Deakin, is being held under the title of "Italian Architecture" at the Royal Institute of British Architects, 66, Portland-place, W.1, from to-day (October 7) until October 29. The hours of opening are: weekdays, 10 a.m. to 7 p.m.; Saturdays, 10 a.m. to 5 p.m. Admission is free.

In connection with the exhibition Mr. Deakin writes:—

No country in the world is richer than Italy in beautiful buildings. Photographs of some few of these buildings are shown in this exhibition. The Royal Institute of British Architects has conceived the exhibition as likely to afford some relief to those expert and casual visitors who, by force of circumstances, have had to limit their interest in buildings in recent years to the study of utility dwellings and factories at home and to the austere questions of town-planning resulting from the war. The exhibition is, in short, meant as a diversion.

The commanding position of ancient and mediæval Italy in the Mediterranean favoured her in spreading art and the love of art through Europe. Roman power was founded upon military conquests, but that power enabled her to imprint the stamp of classical forms in many colonies destined to become independent nations. Italian provinces are rich in marble and stone. The unique quality of Roman concrete aided greatly the creation of the finest examples of architecture and left a valuable heritage to later craftsmen. Labour was plentiful to hand. Above all these material considerations, it must be conceded that Italy managed to breed, in every great constructive epoch, the giants equal to the highest calls upon their genius for design and innovation.

The history of Rome began with the establishment of a community of ploughmen—fugitives from Alba Longa—on the height which later became known as the Palatine Hill. There during several centuries of conflict the emperors had their palaces and their imperial offices. Their field campaigns resulted in the subjugation, first, of many Italian strongholds, ultimately of most of the then known world, until the walls and fortresses and temples of Rome extended everywhere from Northern Britain and Hispania to the desert cities of Egypt and Syria. The Augustan age counts among the grandest eras of world history. Augustus was preceded and followed by a long lineage of emperors who, whatever their other deeds and misdeeds, were ardent patrons of architecture. Their homes can still be traced among the ruins of the Palatine, as their basilicas, temples, triumphal arches, baths and amphitheatres can be viewed in the surrounding metropolis. The broken columns flanking the Forum are survivals of a city crowded with temples and circuses. Of outstanding structures, the Pantheon is the most perfectly preserved, the Colosseum the most impressive in its barbaric conception, the Baths of Caracalla the most extensive. For Roman country villas and houses, with their fountained courtyards and coloured mosaics, we must go to Tivoli, Pompeii and Herculaneum. These monuments as they stand to-day have weathered the storms of 2,000 years.

LUCCA CATHEDRAL. Marble arcading of the west front (da Como, 1204).

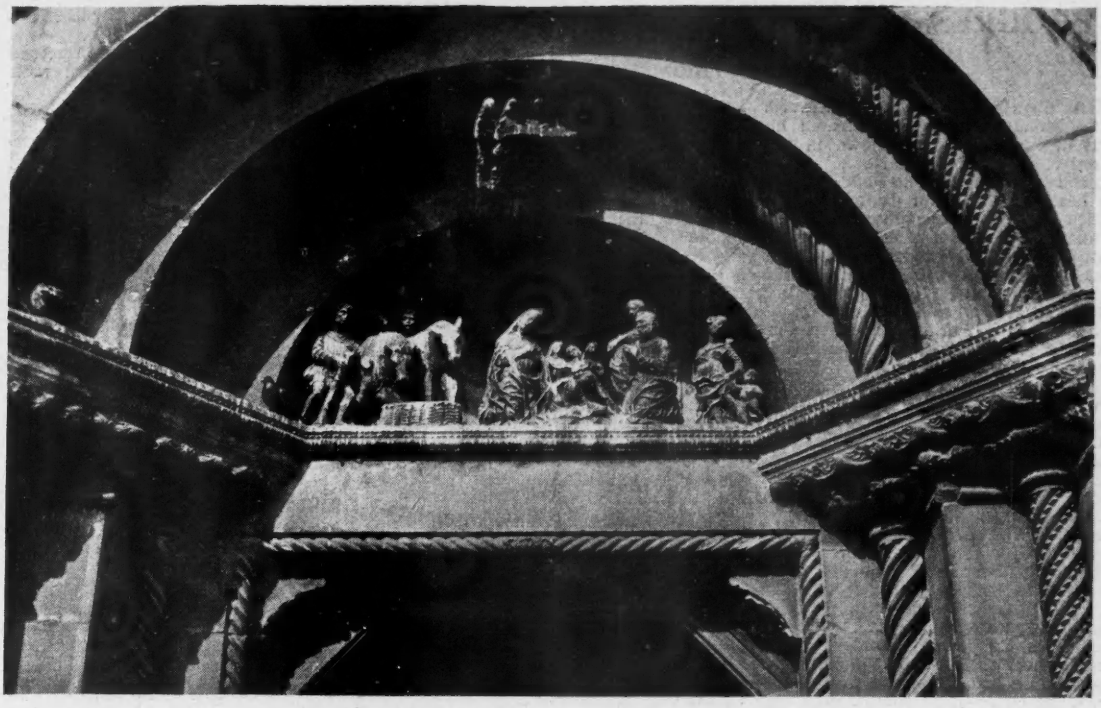
Influences from the East.

The round arch and the vault came from the Etruscans. But influences from the East are everywhere in evidence. First among these influences are found in the classic orders of Greece. The Greeks had colonised Sicily and the southern peninsula (Magna Græcia) long before Rome became a name. Their temples, some fragmentary, but some no more impaired than those of Athens, stand in mellow outline at Segesta, Agrigento and Pæstum. The Greek Orders, essentially constructive, were copied by the Romans and used as decorative features, to be copied and adapted again by the architects of the Renaissance.

The second eastern influence came from Byzantium, the capital of Constantine's Empire, and is linked closely with the diffusion of the Christian faith through the Mediterranean countries. From the third century A.D. Christianity inspired the building of basilican places of worship. Gregory the Great laid the foundations of militant Papal power and tried to keep alive in Christian form the traditions of the classical past. Under Theodoric the Goth, Byzantine art, with its brilliance of interior wall surfaces, was brought to Ravenna, and from Ravenna to Rome, where churches of the new religion were superimposed upon the decayed residue of paganism.

Romanesque.

With the development of the Christian monastic systems, architecture gradually came to be almost a monopoly of the ecclesiastical communities. In the tenth and eleventh centuries the style called Romanesque, quarried in ideas and material mainly from Roman craftsmanship, flourished in the land. Vaulting, which led later to the magnificence of Gothic construction, was put to elaborate tests. Circular and octagonal churches were introduced. The monasteries devised their cloisters, refectories and distilleries. The rise of feudal families brought in its train a multiplication of self-contained, fortified cities, which com-



COMO CATHEDRAL. The Romanesque tympanum over main portal.

peted with one another in architectural effort. Pisa rivalled Venice. Lucca and Pistoia imitated Pisa. Draughtsmen from these northern centres drew inspiration from the striped marbles, scintillating mosaics and inlaid pavements with which the Saracens had adorned Palermo and Monreale, in Sicily. Marble façades, rising in arcades, distinguish these Romanesque exteriors, as delicacy of detail distinguish their pulpits and inner sanctuaries. The bell campaniles, originated in Ravenna during the dark ages, became with adaptations an accepted part of the edifice.

The Feudal Cities.

The feudal jealousies of inland towns, the commercial enterprise of the main harbours, and the temporal rule of the Popes, all contributed to the endowment of buildings secular or religious. Genoa, Pisa, Amalfi and Venice were maritime powers, trading and fighting, but never without a keen sense of artistic acquisitions. Verona, Siena, San Gimignano, Perugia, Ferrare, Gubbio and many other Italian towns preserve a great deal of their former feudal battlements. The "Free Cities," which were nations in miniature, competed in peace and war in the erection of imposing civic centres, town-gates, bridges and ducal palaces. Florence had prominence thrust upon it early in the twelfth century, during the Guelf-Ghibelline struggles, and was later to prosper under Medician suzereignty and produce men of the highest genius—Brunelleschi, Donatello, Michelozzo, Verocchio, Michelangelo and many others, who touched their own fair city with magic hands and set new standards for posterity.

The Gothic style was introduced into Italy about A.D 1200, but only in adaptations and without some of the features prominent in Northern Europe. Steep roofs are here unnecessary. The Italians naturally preferred their own cornices and colonnades. An abundance of marble and of sunshine, and the strength of the well-established classical tradition, militated against a wide acceptance of Gothic. Where it is found it differs in many respects from the Gothic of England and France. Milan Cathedral is a notable exception; its size and magnificence are overwhelming, but it is not intrinsically Italian. Siena and Orvieto Cathedrals are superb, aglow with carvings and ornate in every element. The Certosa at Pavia is a confusion of styles. The façade of Bologna Cathedral (San Petronio) was left unfinished. Verona, Padua, Assisi and Florence enjoy a wealth of Gothic structures. But it was left to Venice, flushed with victories against the Turks and the Genoese, and at the summit of her fortunes, gloriously to apply the Gothic style to her domestic requirements in the Doge's Palace and in the mansions along the Grand Canal.

The Renaissance.

The Renaissance was essentially Italian. It was a combined operation, Florence, Venice and Rome contributing lavishly to the movement for the rediscovery of classical purity in literature and art.

The subject of Italian architecture, which cannot be separated from the sculptures and paintings which embellish it, is much too extensive for treatment in any brief note or any single exhibition. In showing these photographs the Royal Institute of British Architects is aware of the relative modesty of their scope; it aims at nothing more than to remind the connoisseur of the excellence of a few select buildings of permanent fame in Italian history, and to interest the casual visitor in the comeliness of their outlines and their relationship with more familiar sights. The photographer himself would like to confess that he is neither a photographer nor an architect, but merely a lover of Italy and a grateful student of her immeasurable artistic wealth.

ECOLE DES BEAUX-ARTS

Direct Admission of American Architectural Graduates

AN important step opening the way for graduates of American schools of architecture to be admitted to the renowned French school of fine arts, the Ecole des Beaux-Arts, has been announced by the American Institute of Architects.

Up to now, graduates of American schools of architecture were admitted to the Ecole des Beaux-Arts only after a detailed qualification procedure. Under the new arrangement with the French school worked out by Mr. Julian C. Levi, New York, chairman of the Committee on International Relations of the A.I.A., selected graduates of American schools will be admitted by Beaux-Arts without examination. In effect, the selected American architects will have the benefit of postgraduate study at the 300-year-old Paris institution at the expense of the French government, since the school is supported by the government and has no tuition fees.

"The new agreement reflects international recognition of the high standing of architectural education in the United States," states Mr. Levi. "In the past, all American students have been required to pass a series of formidable examinations for admission."

The Ecole des Beaux-Arts will accept up to ten graduates of schools which are members of the Association of Collegiate Schools of Architecture. Selection will be made by a committee of the A.I.A. on the basis of applicants' scholastic records, architectural designs and other criteria. Successful applicants will be admitted to the higher of the two architectural classes of the school to participate in its noted architectural competitions.

PROGRESSIVENESS IN ARCHITECTURE

Criticism and Vindication

THE English counterpart of Ellsworth Monkton Toohey has reared his head in a manner only known in this country. In "Notes and News" in the September 16 issue of *The Builder*, under the heading "A Bristol Church Dispute Settled," he retails at length the trials and tribulations of a firm of architects for a Bristol church, seizes avidly on the news value of the restrictive imposition of a screen of trees and the fact that the church is to be encased in screen walls within the next ten years. Furtively he states that "the design does not appear too clearly from the perspective." It seems difficult to believe that the architects themselves submitted either the perspective or the plan for publication.

Our Mr. Toohey works in a more subtle and descriptive manner than the American counterpart depicted in Ayn Rand's book, "The Fountainhead,"* which has been excellently adapted as a film by Messrs. Warner Bros., and which he has been pleased to call "stuff." Freed from inhibition and threat of action for libel, he revels in criticism, and refers to Mr. Howard Roark's designs with relish as being similar to hair dryers or electric toasters—a liberty not accorded to any architect contributor who might quite well, and in better honesty, wish to describe the effort of a confrère as resembling a collapsed tumour. This, however, is not likely to happen, since architects, despite their many faults, are not so hopelessly ungenerous to each other and are not middlemen.

Our Mr. Toohey states, "Personally we can take this sort of stuff or leave it; it may come within the scope of entertainment, but it does not reflect life." The usual journalese use of the first person plural, it should be remembered, is confined to editorial privilege, and does not reflect the general consensus of opinion. Indeed, it is extremely doubtful if "we" have read the book, even if "we" have seen the film. Although the film is a very good adaptation of the book, to read the latter is imperative if a proper verdict is desired.

That it does not reflect life is because Mr. Toohey, like his American counterpart, does not wish to admit that there is any semblance of reflection even in this country, offering at the same time the obvious contradiction in the published evidence of Messrs. Burrough and Hannam's efforts at Bristol, a firm of architects undergoing the same tribulations and effects of monstrous philistinism which last form the main theme both of book and film, and which Ayn Rand and Messrs. Warner so thoroughly and efficiently depict in the struggles and fortunes of Howard Roark, thus rendering in their own way a signal service to architects and architecture generally.

One can be grateful to note that integrity is considered a worthy aim, and would go so far as to deem it worthy of some appeal rather than none at all. Furthermore, most architects in these days of frustration would welcome even a slight modicum of ridicule by way of notice rather than our present method of inarticulate defence and representation.

That our Mr. Toohey has not read the book is highly suspected, otherwise he would not ask the fatuous question concerning deviation from dream design.

All this brings us to the point as to how far and in what manner the architect's case should be presented and stressed publicly, whether by illustration, exhibition, book, treatise, fiction or film. Why any attempt in the film should be decried or the integrity of the architect exposed through such medium should be any less acceptable by way of popular appeal as, say, a speech at the Architecture Club, is difficult to understand.

Does it very much matter if the note of "bogus" or "embarrassment" creeps in or what we see is "stuff," for even stuff can be good of its kind, and anything portraying the average architect's life, his aim and objective, would be deplorably dull and ineffective propaganda. Mr. Cresswell's "Honeywood File," delectable reading as it is, would require a great deal more to make it even a box-office possible as a film.

Compared with the doctor, parson or politician, the architect figures seldom as the hero in any work of fiction, still less of any film. The life of Sir Christopher Wren offers rich material for anyone so disposed. Mr. Miniver was so eminently safe, so little disturbing, that he did not upset our Mr. Toohey, who even desires more, but how many remember in comparison (or will continue to do so) the tremendous punch and assertiveness of Howard Roark. The fact is that here in England the public is so little architecturally-minded that the omission is not surprising and, what is more, the profession does little towards making it so. Hence one can afford to have the bludgeoning assertiveness of Roark and be prepared to put up with embarrassment if such exists. The film has run for far too short a period at the Warner Theatre, but from what can be understood it will go on circuit in 1950, for which we can be grateful. Why be so squeamish? Must we, metaphorically speaking, be screened by trees, and must our work be encased in screen walls? What is so indecent about it? Has our Mr. Toohey nothing more to say than "The design does not appear too clearly from the perspective"? If criticism is inferred, why not be frank?

One regrets having to write with such heat about such matters, and one demurs from any unchivalrous attitude to this or any other section of the architectural press to whom architects in this country owe a great deal, but if there is to be criticism let it be open and honest. There is little difference between the Roark of fiction and Messrs. Burrough and Hannam of fact, and no doubt many others. They all plough the same tremendous road of difficulty, and any exposition of the iniquity is a godsend, whether from the haven of the bogus or through any other form. One can recommend our Mr. Toohey and all architects to read Roark's impassioned defence on pages 629-636 of the book. It is, however, too lengthy to reproduce here in full, but a few passages may be quoted, although much must be lost through divorced context.

"Thousands of years ago, the first man discovered how to make fire. He was probably burned at the stake he had taught his brothers to light. . . . Centuries later the first man invented the wheel. He was probably torn on the rack he had taught his brothers to build. . . . Throughout the centuries there were men who took first steps down new roads armed with nothing but their own vision. Their goals differed, but they all had this in common: that the step was first the road new, the vision unborrowed and the response they received—hatred."

[The Bristol church has to be screened with trees and encased in screen walls within the next ten years.]

"Every great new thought was opposed. Every great new invention was denounced. The first motor was considered foolish. The aeroplane was considered impossible. The power loom was considered vicious. Anaesthesia was considered sinful. But the men of unborrowed vision went ahead. They fought, they suffered and they paid. But they won."

Later—

"But the mind is an attribute of the individual. There is no such thing as a collective brain. There is no such thing as a collective thought. An agreement reached by a group of men is only a compromise, or an average drawn upon many individual thoughts. It is a secondary consequence. The primary act—the process of reason—must be performed by each man alone. We can divide a meal among many men. We cannot digest it in a collective stomach. No man can use his lungs to breathe for another man. No man can use his brain to think for another. All the functions of body or spirit are private. They cannot be shared or transferred.

"The basic need of the creator is independence. The reasoning mind cannot work under any form of compulsion. It cannot be curbed, sacrificed or subordinated to any consideration whatever. It demands total independence in function and in motive. To a creator all relations with men are secondary.

"In all proper relationships there is no sacrifice of anyone to anyone. An architect needs clients, but he does not subordinate his work to their wishes. They need him, but they do not order a house just to give him a commission. Men exchange their work by free mutual consent to mutual advantage when their personal interests agree and they both desire the exchange. If they do not desire it they are not forced to deal with each other. They seek further. This is the only possible form of relationship between equals. Anything else is a relation of slave to master, or victim to executioner.

"An architect requires a great many men to erect his building. But he does not ask them to vote on his design. They work together by free agreement, and each is free in his proper function. An architect uses steel, glass, concrete, produced by others. But the materials remain just so much steel, glass and concrete until he touches them. What he does with them is his individual product and his individual property. This is the only pattern for proper co-operation among men."

And much else, which regretfully space forbids quotation. And this is called "stuff" which we are invited to take or leave. The majority will take willingly and cheerfully, and with gratefulness to Ayn Rand, who actually dedicates the book as follows:—

I offer my profound gratitude to the great profession of architecture and its heroes who have given us some of the highest expressions of man's genius, yet have remained unknown, undiscovered by the majority of men. And to the architects who gave me their generous assistance in the technical matters of this book.

We are, however, to note that trees are to be planted and screen walls erected. The former will re-echo the wind of laughter of subsequent enlightened men, and the walls invite the chalk-marks of the lewd for ten years or more after screening, an effort which the creators themselves well know will in itself pass into the commonplace in the march forward towards the sun of enlightenment and comprehension of purpose.

NIEL MARTIN-KAYE.

* THE FOUNTAINHEAD. By Ayn Rand. (Published by Messrs. Cassell, London and New York.) Price 15s.

** Others besides ourselves will read with keen interest Mr. Martin-Kaye's lively defence of the progressive architect. A small leavening of fact may now perhaps not be out of place. First, the perspective sketch of the Bristol church, with all the details as printed, were kindly sent for publication as news, at our request, by the architects. No comment, "furtive" or otherwise, was intended in the remark of which Mr. Martin-Kaye complains; if the design appeared plainly to him in the sketch as published, then he has an advantage over us as, again, he has in having read the book of "The Fountainhead." We would point out that the criticism of which he complains was based not on the book but on the film which is, or ought to be, a self-contained, freestanding effort.—EDITOR.

A HOUSE AT CHESHAM, BUCKINGHAMSHIRE

SIR GUY DAWBER, WILSON AND FOX, FF.R.I.B.A., ARCHITECTS

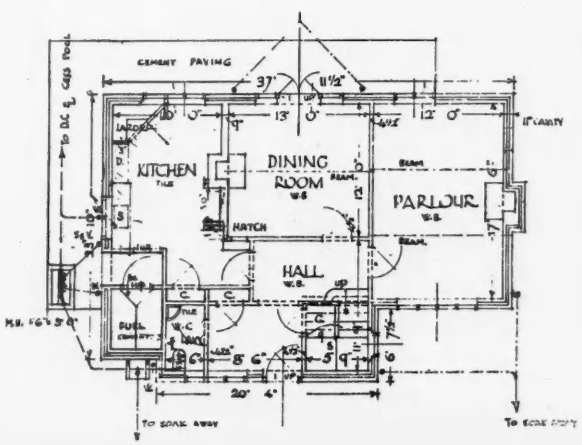
THIS house was one of a group of four built on the fringe of a fruit orchard on the road between Chesham and Berkhamsted.

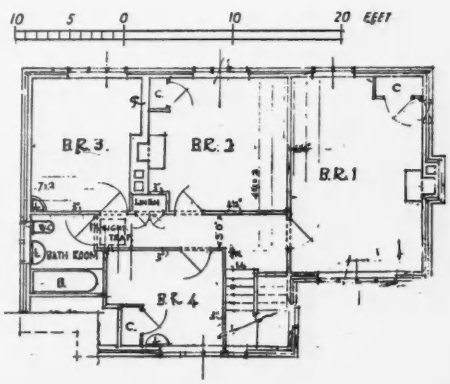
The scheme comprised four detached houses arranged on the site to form a group and " handed " so that they did not overlook each other on the sides. Garages were provided at the ends of the back gardens with an access road around the back of the site, so that the garages are out of sight.

This house is built of local hand-made multi-coloured bricks with 11 in. cavity walls, painted wooden casement windows, local sand-faced tiles and fitted with an oak entrance door. The floors of the principal rooms on the ground floor are in wood block, and the wall plastering sand-faced. The ceilings have beams, set out so that Celotex could be fixed in single sheets without any joints.

The plans below show the reversed arrangement of other houses in the group.

The builders were Messrs. Jesse Mead, Ltd., of Chesham, and the architects Sir Guy Dawber, Wilson and Fox, FF.R.I.B.A.





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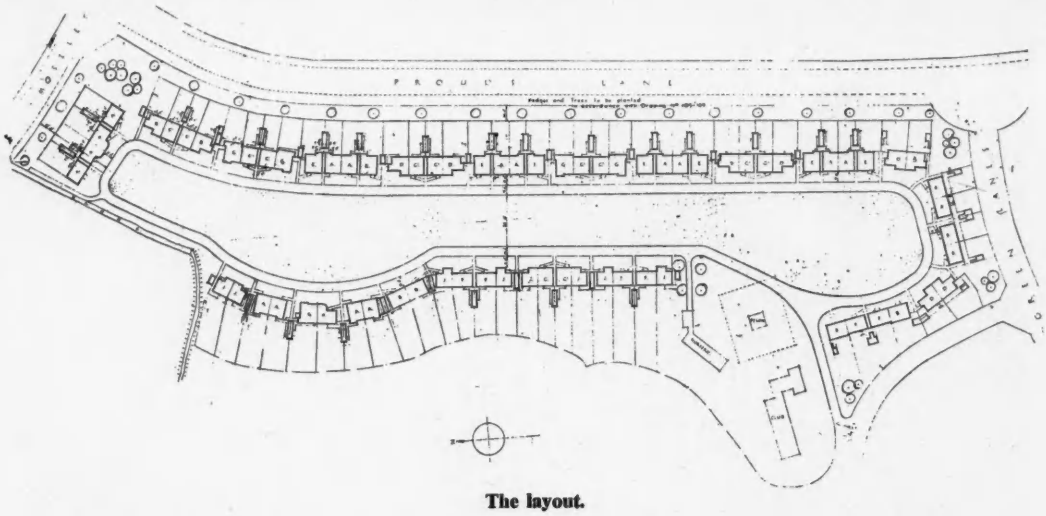
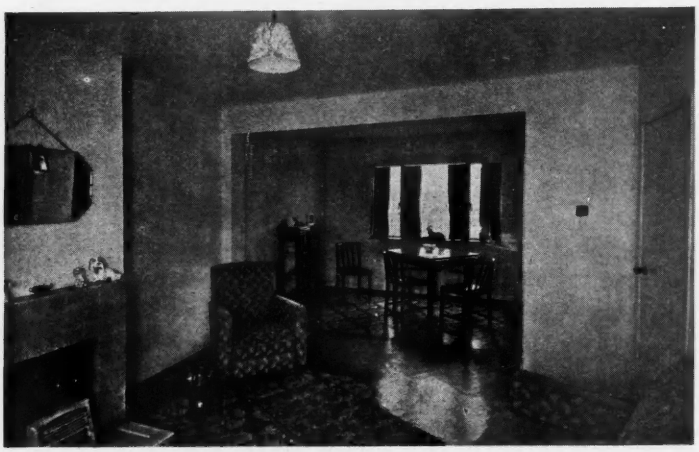


The layout.

HOUSES AND FLATS ON THE STOWLAWN PARK ESTATE FOR THE BILSTON BOROUGH COUNCIL

ELLA B. BRIGGS, L.R.I.B.A., ARCHITECT

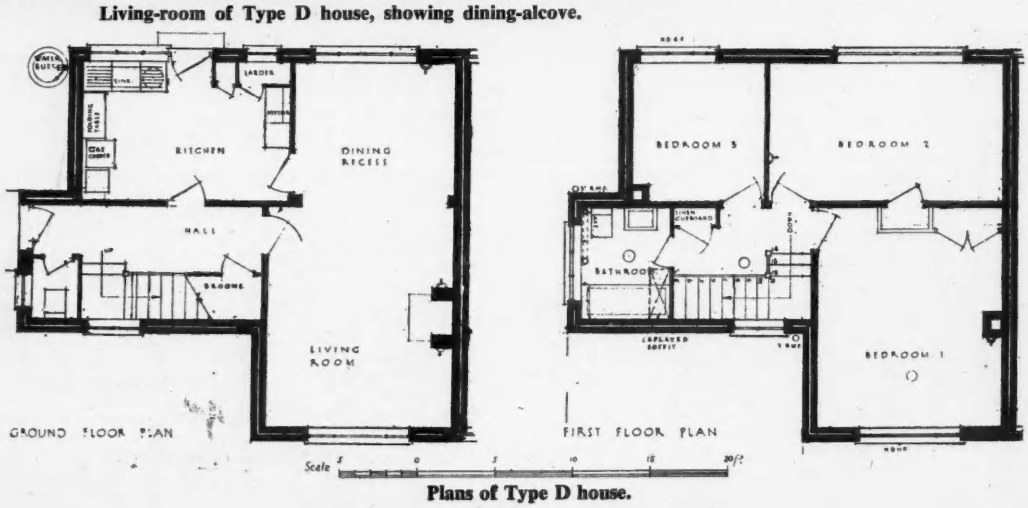


Living-room of Type D house, showing dining-alcove.

THIS scheme, which is built on the site of abandoned coalmines, encloses a central green space. To provide a dominant feature the erection of a block of flats or maisonettes has been suggested for the south-east corner of the site. A future day nursery of single-storey design will further assist in varying existing heights.

Future planting is planned to subdivide the rather elongated central green and to create a background of trees for the houses.

The scheme comprises 16 one-bedroom flats, each flat with direct access from outside; 8 two-bedroom houses; 50 three-bedroom houses; and 8 four-bedroom houses. Most of the houses are linked by low walls formed by one wall of the outhouses

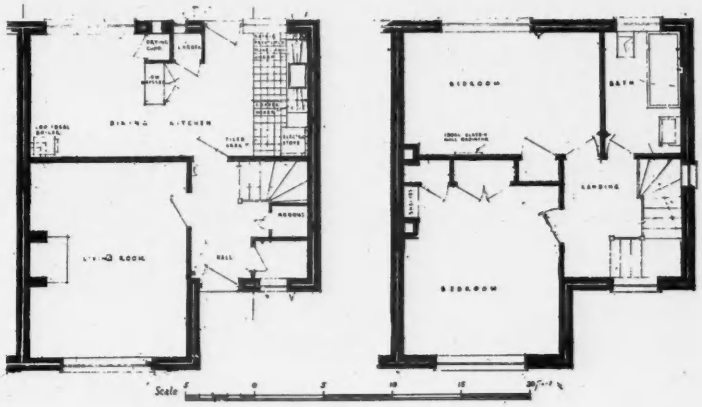


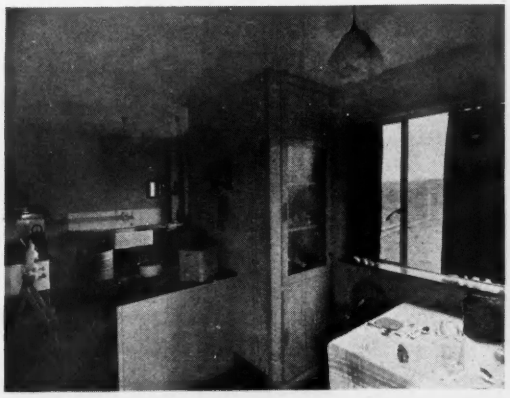
Plans of Type D house.

Top:
Types J and E houses.

Right:
Plans of Type J terrace house.

Below:
(Left) Interior of Type J house, showing sub-division of dining-kitchen; (right) Types A and J houses.





and by the entrances to the back gardens.

Foundations are six-inch-thick reinforced concrete rafts. External walls are 11-inch cavity, with a plinth of facing bricks and common bricks rendered in "Snowcem" or "Cementone." Internal walls are of brick or breeze, and hoods and door surrounds are in precast reinforced concrete.

Roof tiles are of hand-made Stoke-on-Trent pantiles, and block flooring on screed is provided for living rooms. Kitchens and halls have quarry tiling, while first floors are in tongued-and-grooved boards.

Sanitation is on the one-pipe system, and all sanitary piping is inside. Hot-water supply to the houses is provided by "Ideal" boilers in the kitchens, and gas-ignited "Fulham" fires, with back boilers in the fireplaces of living rooms, are in all flats.

Electric power points are provided in all bedrooms.

Cookers and wash coppers are gas- or electrically-operated.

The price per foot super is in accordance with the Ministry of Health regulations, with a slight addition owing to the peculiar conditions of the site.

The architect was Mrs. Ella B. Briggs, L.R.I.B.A.

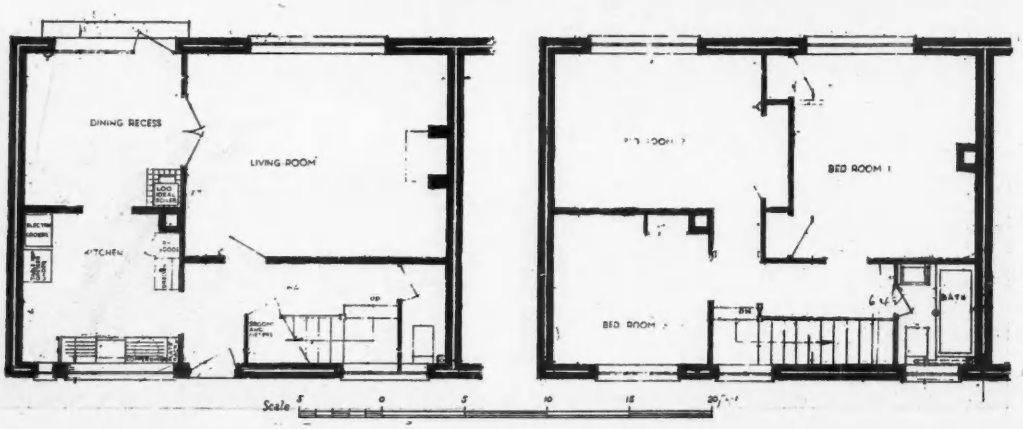
The main contractors were Messrs. Biddulph and Thrift, Ltd., of Ettingshall, Wolverhampton; and the principal sub-contractors were:

(Roof tiles, Wheatly & Co., Ltd.; rendering (Snowcem), Cement Marketing Co., Ltd., (Cementone), Joseph Freeman & Sons, Ltd.; block flooring, Hollis Bros. & Co., Ltd.; windows, Crittall Manufacturing Co., Ltd., George Jennings-Hamer (Windows), Ltd., and Rustproof Metal Window Co., Ltd.; electrical installation, The Unit Electrical Installation Co.; gas installation, Bilston Gas Light and Coke Co., Ltd.; fireplaces, Bratt Colbran, Ltd.; domestic boilers, Ideal Boilers and Radiators; sanitary appliances, Ward Bros.; and gas-ignited coke fires and ironmongery, W. N. Froy & Son, Ltd.

Types B and D houses.

Right: **Rear view of Type B houses.**

Below: **Plans of Type B terrace house.**



Left: **A kitchen in the Type H flats.**

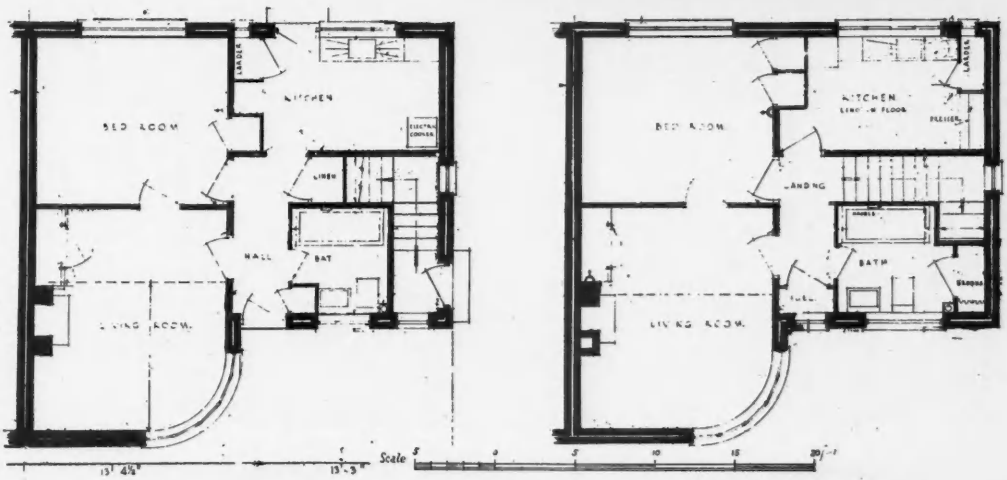
HOUSES AND FLATS ON THE STOWLAWN PARK ESTATE

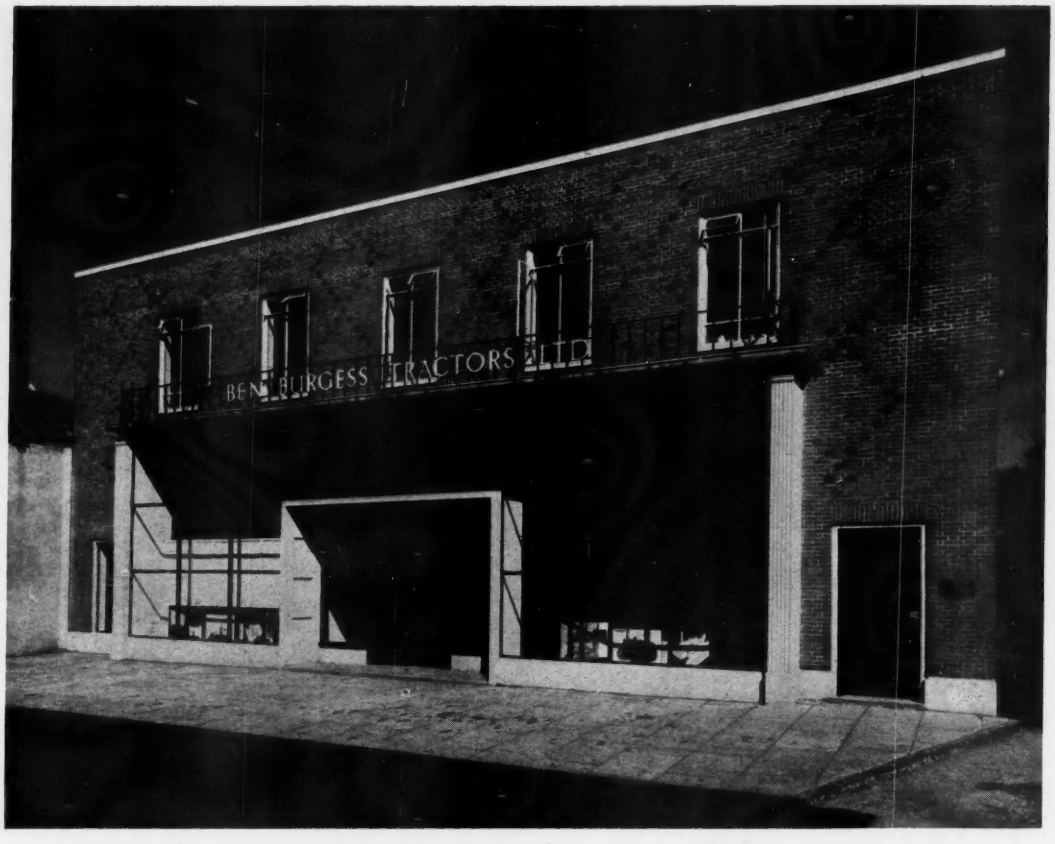
for the Bilston Borough Council

ELLA B. BRIGGS, L.R.I.B.A., ARCHITECT

Right: **Type F houses (left) and Type H flats.**

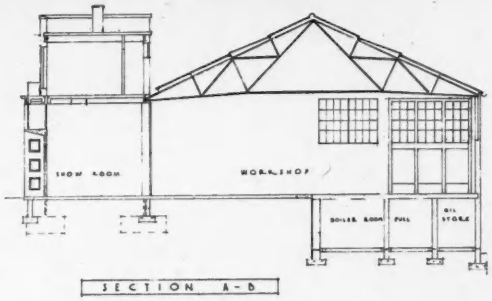
Below: **Plans of Type H flats for aged people.**



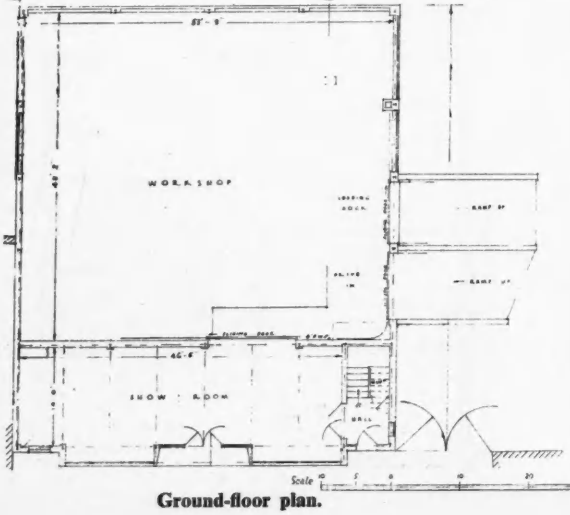


WORKSHOP AND SHOWROOM PREMISES, NORWICH

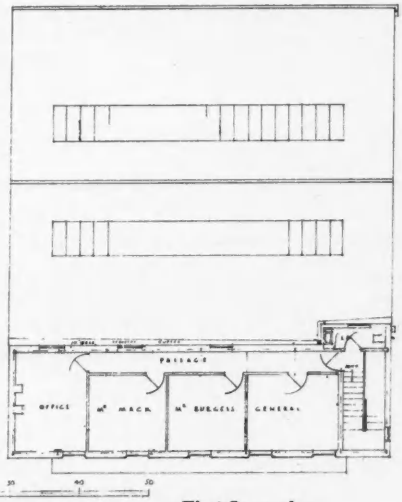
E. R. CRANE, D.S.C., F.R.I.B.A.
(BUCKINGHAM AND BERRY, FF.R.I.B.A.), ARCHITECT



SECTION A-B



Ground-floor plan.



First-floor plan.

THIS building faces King-street, the second oldest street in Norwich, and is built over a warren of old cellars which were either filled in or spanned according to their position. The subsoil of gravel slopes steeply and it was necessary to erect a reinforced concrete retaining wall at the back of the site; this was designed by Messrs. Wilton and Bell, using B.R.C. fabric so that no additional steel permit should be required.

The building is a normal steel-framed structure with precast concrete floor beams, and the workshop is spanned by an asbestos- and glass-covered trussed roof.

The Corporation required a new street line 17 ft. behind the existing buildings on either side, and this exposed a gable to the right of the building which had to be supported and was refaced with Tyrolean cement rendering.

The furnace for heating the building will be partly fired by waste oil from the sumps of tractors, and a 500-gallon tank is incorporated in the basement for this and the fuel oil.

The flat concrete roof over the offices is prepared to receive a further floor providing living accommodation for two employees of the firm, and is covered with Messrs. Briggs' 3-layer bituminous felt; the roof over the stairs is in timber so that it may be removed when extension takes place.

All the old buildings on the site were destroyed by enemy action, which enabled a closing order to be issued over the yard at the side, from which entrance is obtained to the workshop and basement.

The accommodation provided is as follows:—

Basement.—Furnace room and fuel tank for oil heating. Oil store for tractors. Lavatory for workmen.

Ground floor.—Workshop, 55 ft. by 48 ft. with top and side lighting, entered by ramp from yard at side and with loading dock also in yard. Showroom, 46 ft. by 16 ft. by 15 ft. high. Hall and stairs to first floor.

First floor.—General office and three private offices, w.c. and lavatory.

The quantity surveyor was Mr. Jack Stockings, A.R.I.C.S., of Norwich, and the general contractors were Messrs. H. C. Greengrass and Sons, Ltd., of Norwich.

The principal sub-contractors included :—

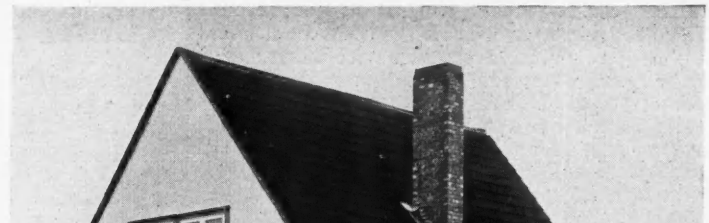
General heating (unit heaters in workshop, radiators elsewhere, all low pressure hot water), Messrs. E. Reeve and Sons, Ltd.; electric lighting (fluorescent in workshop), Messrs. Fishers, Ltd.; retaining wall at rear of site concrete, faced with brick and reinforced with B.R.C. fabric, designed by Messrs. Wilton and Bell; Weldon reconstructed stonework, Empire Stone Co.; bricks, Builders' Direct Supply Co.; steel windows, Williams and Williams; paint, the Walpamur Co., Ltd., and Messrs. Chas. Turner and Co., for bronze finish to showroom windows; floor beams, Messrs. Concrete Co., Ltd., and Messrs. Crotch; flooring, workshop in granolithic, showroom in "Noelite" paving, offices in Granwood flooring, stairs and hall in cream terrazzo, Messrs. Crotch; steel handrails, balustrading and lettering, Messrs. S. T. Cowell and Co., Ltd.; structural steel, Messrs. Robert Stevenson; sliding door track, Messrs. Henderson; and gates, Messrs. Boulton and Paul.

The doors to the offices and showroom in French polished African mahogany were by the main contractors, who were responsible for all the joinery.

WORKSHOP AND SHOWROOM PREMISES, NORWICH. The workshop.

A PREFABRICATED TIMBER HOUSE, BANSTEAD, SURREY

Designed by WALTER KOENIG. T., P. H., and E. BRADDOCK, F. and A.R.I.B.A., M.I.Struct.E., Consultant Architects



THIS prefabricated, thermo-insulated timber house, recently erected at Banstead, is a prototype of a number designed for erection on the Continent. Several have already been completed in Holland and Denmark, where a State subsidy of 75 per cent. has been allowed, as for brick houses.

The house is erected on a 6-in. concrete slab, and supported round the edge and under all main interior load-bearing walls by 9-in. brick foundation walls with normal strip concrete foundations thereunder.

The flooring is 1-in. boarding laid on battens in 62.5 cm. (approx. 2 ft.) centres, over concrete sub-floor. Two layers of bituminous damp-proofing material are provided between the sub-floor and the boarding.

External walls are built up from prefabricated timber panels with planed tongued and grooved outer boarding, and "Heraclith" boarding ready for plastering inside. Panels are approximately 4 ft. in width, and are joined to corner posts at the angles, and made up with "Thermofol" insulation. The panels slide into position on timber cills bolted to the foundation and are connected without bolts or nails by timber dowel strips. They are capped by timber heads on which the ceiling and roof structure rests, and over which all ceiling joists or roofing sections are notched. The external door and window panels include all frames, doors and windows, complete with handles, but unglazed.

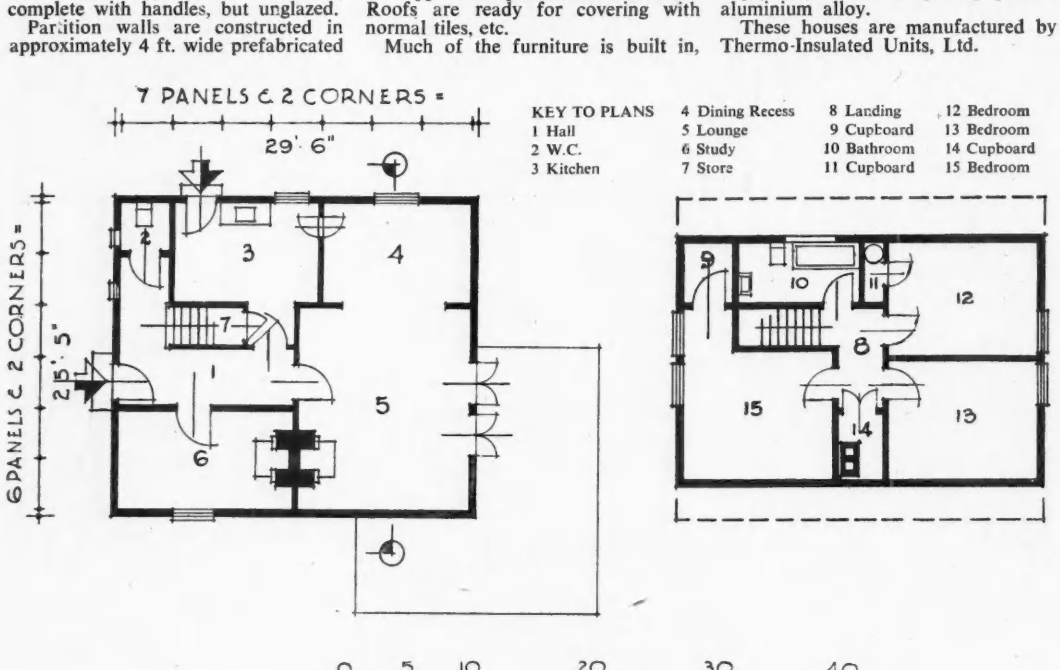
Partition walls are constructed in approximately 4 ft. wide prefabricated timber panels with planed surfaces and are set between cills and heads like the external panels. All internal door openings and doors are included in the partition panelling. Ceilings are framed panels, all prefabricated, having an exposed under-surface of fibreboard, an upper surface of timber boards, and an intermediate insulating sheet of "Thermofol." They are laid in position on bearers forming part of the fabricated ceiling joists or roofing sections.

Roofing panels and roof trusses can be supplied in prefabricated sections. Roofs are ready for covering with normal tiles, etc.

Much of the furniture is built in, such as the cabinet for kitchen sink, preparation bench with cupboards under, ventilated food cupboard and bedroom cupboards, supplied with sidehung doors and drawers complete with all handles.

All piping for hot and cold water supply for kitchen and bathroom, including gas water heater or electric immersion heater and cold water storage tank, is supplied with all houses, as well as rainwater goods consisting of 4-in. gutters with 2½-in. downpipes, with necessary brackets, clips, etc., all of heavy duty pressed aluminium alloy.

These houses are manufactured by Thermo-Insulated Units, Ltd.



Ground-floor plan. **First-floor plan.**

HOUSING IN U.S.A.

A Housing Centre Talk

WITH the opening of a new autumn and winter session, the former weekly lunch-time meetings of the Housing Centre have given place to a different arrangement, due to the fact that some members found it difficult to get to meetings at lunch-time. Now meetings are to be held only fortnightly, lunch-time ones alternating with meetings in the early evening, so that there is a mid-day meeting once a month and an evening meeting also monthly.

At the first lunch-time meeting of the season, on September 27, MR. ERNEST A. GRUNSFELD, an American architect who has been touring Europe, spoke.

Mr. Grunsfeld began by saying he thought that people abroad, and particularly in Sweden, were looking at American housing and planning through rose-coloured spectacles. They had the idea that in America planning was fine because the country was rich and potentially far advanced. It was only the depression that brought some of the public housing about in America. He was a member of the Illinois State Housing Board in 1932, just before President Roosevelt was elected. The only housing existing at that time in Illinois were two projects of 800 to 900 units each in a city of half a million people. The amount of public housing in the U.S.A. was pitifully small. In Great Britain, in St. Pancras, the total number of housing units built since the war and planned for immediate erection amounted on a percentage basis to one-third of all the housing they had in Chicago, a city of three and a half million inhabitants. In Chicago they had less than 10,000 dwelling units. It was nothing.

Mr. Grunsfeld pointed out that in America there was no such thing as local rates, and by and large the Federal Government paid the public housing bill. The programme for the U.S.A. for the next six years was 800,000 units, of which not more than 150,000 were to be built in any one year. In a country with a population three times that of Britain this programme amounted to nothing.

The U.S.A. was the only large and important country which to-day placed its faith chiefly in the policy of *laisser faire* with regard to housing. That might have been good enough when America was still undeveloped, when there was a vast amount of land to build upon, but to-day, when the country was largely opened up it seemed to him there was no question as to the answer.

It was not unfamiliar, but somewhat surprising, to the audience to hear the speaker say that the Illinois Housing Board was up against shortages of materials and the opposition of the building trade unions to improvements in methods.

Housing and Planning Boards of American cities suffered from a lack of really competent technical advisers, and since the mayor made the appointments to staffs and the complexion of each board changed when the political complexion of the city changed, there was little continuity of policy.

Commenting again on the St. Pancras flats, he expressed the opinion that they were the equal of anything in America except that there refrigerators were mass-produced and were therefore cheap to instal. The kitchens we admired so much in American magazines were not typical of American kitchens, and probably cost between £1,000 and £2,000.

Mr. Grunsfeld pleaded for more experimentation with housing, not only in terms of materials and methods, but in accommodation, *i.e.*, design and size of rooms. He also showed his favour for terrace houses. As to prefabrication, he thought it cost to-day just about the same as conventional building methods, and it was not so good. Answering a question about building in California, he said that a lot of houses in that State were built of redwood. The maintenance costs of this material were less than the pointing which would have to be done with brickwork, and the tannic acid in the wood was not only a fire preventative, but resisted insects. The wood would literally last thousands of years.

A Record Building Period

UNITED STATES builders started work on 98,000 new permanent non-farm dwelling units in August, the U.S. Department of Labour announces.

This total was an increase of 2,000 new units over the July figure and 10,400 over August last year. August marked the fourth successive month in which new homes were started at about the rate of 100,000 a month. House-building activity this past summer was at the highest monthly level on record for June-July-August when assessed by the number of new units put under construction.

The Department's Bureau of Labour Statistics, which compiled the report on new home construction, ascribed gains this year to continued increases in rental accommodations—units in two-or-more family structures—and publicly financed housing begun by State and local housing authorities. It reported that almost 28,000 new publicly financed dwellings have been put under construction thus far in 1949, compared with 8,800 units started during the 1948 January-August period. Preliminary estimates, it added, recorded a nation-wide total of 647,500 new dwelling units started during the first eight months of 1948.

Sustained pace in new home building in the United States is indicated under operations of the new housing act of 1949, which provides for construction of 810,000 dwelling units within a six-year period. The law authorises the U.S. Government to contribute up to 308,000,000 dollars a year for 40 years in rent subsidies for occupancy by low-income families. It also provides for a five-year slum clearance programme, with one-third of the cost to be paid by the U.S. Government and the rest by local governments.

INSTITUTION OF SANITARY ENGINEERS

THE following candidates have been notified of their success in the recent qualifying examination for election to the grade of associate member, and all have since been approved by the council and elected to that grade:—Messrs. P. I. Adams (Cardiff), R. W. Booth (Ilkeston), C. J. Bumford (Rhondda), J. G. Clarke (Richmond, Yorks), S. Grimshaw (nr. Scunthorpe), N. F. Harvey (Manchester), E. N. Sinclair (Bewdley, Worcs.), G. Walshaw (Pontefract), and F. Geddes Chu Cheong (St. Kitts, B.W.I.). To meet the convenience of certain candidates at one centre abroad, the next examination, which was to have been held on November 24, 25 and 26, is now to take place on November 17, 18 and 19, 1949. Provisional arrangements are being made to hold next year's examinations on May 25, 26 and 27, and November 23, 24 and 25. Further information concerning the Institution's examinations may be obtained from the Secretary, 118, Victoria-street, S.W.1.

CORRESPONDENCE

Communism and Technical Organisations

TO THE EDITOR OF *The Builder*.

SIR,—I did not answer that portion of Mr. Loweth's letter dealing with Communism (*The Builder*, September 23) for two reasons: firstly, because I am not a Communist; and secondly, because he is so obviously unbalanced on the subject.

He says he does not dislike trade unions, though the whole of his letters proves the contrary. All he wants is that they should be purged of what he (but not the membership) considers "undesirable elements." Ever since trade unions began bosses have been saying what fine organisations they would be if only they would get rid of those agitators who are always stirring up trouble. Unfortunately for everyone trouble is caused not by "undesirable elements" but by real grievances.

No, I am certainly not going to treat seriously all the nonsense Mr. Loweth writes. I made the essential point in my last letter, but apparently must repeat it. We trade unionists are determined to elect our officials and run our affairs in our own way. Sermons from employers about "loyal service"—even if they do describe us as "utterly disgusting and thoroughly un-English"—arouse only irreverent laughter. The angrier Mr. Loweth and his kind get about it the more certain we are that we are right.

E. LISTER.

London, W.C.1.

Income Tax

TO THE EDITOR OF *The Builder*.

SIR,—I wonder if any of your readers get an allowance for the cost of technical books from the Income Tax authorities? As a lecturer on architecture I find that a considerable portion of my salary goes in the purchase of necessary books, but apparently I cannot claim for these. The matter could, I think, be ventilated as it is surely against the national interest to discourage people from acquiring technical skill. As an illustration, the "Clyde Valley" planning report published by H.M. Stationery Office costs £4 4s., and this is surely an example of a book that is only purchased for professional reasons. To keep abreast of current practice becomes simply an impossibility unless something can be done to alleviate the position

CIVIC.

BOOKS RECEIVED

AMERICAN BUILDING. By James Marston Fitch. (London: B. T. Batsford. Ltd.) Price 25s.

BUILDING MATHEMATICS. By C. A. R. Eslick and W. Hatton. (London: English Universities Press.) Price 6s. 6d.

EDUCATIONAL CRAFTWORK IN WOOD. By P. Yabsley. (London: B. T. Batsford, Ltd.) Price 10s. 6d.

INTRODUCTION TO THE DESIGN OF TIMBER STRUCTURES. By Phillip O. Reece, A.M.I.C.E., M.I.Struct.E. (London: E. and F. N. Spon, Ltd.) Price 16s.

REINFORCED CONCRETE. By Professor A. L. L. Baker. (London: Concrete Publications, Ltd.). Price 15s.

WHILLANS'S TAX TABLES, 1949-50. By G. Whillans. (London: Butterworth and Co. (Publishers), Ltd.) Price 3s. 6d.

PROGRESS AT CRAWLEY NEW TOWN

Review by Sir Thomas Bennett

A DETAILED account of the progress being made in the development of Crawley New Town was presented by SIR THOMAS BENNETT, C.B.E., F.R.I.B.A., chairman of Crawley Development Corporation, when he spoke on September 22 in the series of lectures given at Tunbridge Wells Building Week.

Sir Thomas began by describing the nature of the work of a Development Corporation and said:—

"In order to secure approval for its schemes it must, at an early stage, consult all the officials, whether local or ministerial, who may be concerned. It must carry them out in concurrence with their proposals, so that at the final stage it is as certain as one can be certain to secure their approval. Of course, you know the complications of the building machine to-day: there is probably no other industry in the country which is subject to so much control from three separate ministries, and that in itself does undoubtedly give rise to delay.

"I think we would say as a Corporation (as you would say as individuals) that the machine is so complicated in some respects and it tends to be so stultifying that, if and when unemployment overtakes this country it is still as complicated, it will spell something like disaster, and we feel that it would be of very great service to the country if a committee of the Ministry of Town and Country Planning or the Ministry of Works could take in hand the form of this machine and simplify it.

"In the meantime, the Crawley Development Corporation, like the rest of us, works and has worked this machine, in spite of its defects, and it is therefore possible to say that in two years and a half it has been able to commence to build on a substantial scale."

Sir Thomas then went on to outline the steps taken at Crawley to provide the three major services—water, sewerage and communications—and following is a summary of his subsequent remarks concerning the latter:—At an early date Crawley let a contract for the construction of approximately three-quarters of a mile of road in the industrial area and services leading from the London Road into the hitherto undeveloped land which is to the north of the designated area of the town. This contract was secured by Willment Brothers, Ltd., as the result of tendering, and the amount of this contract was approximately £43,000.

The road joins the London Road at quite a conspicuous point and at this point we have designed what we think will be an impressive junction consisting of a triangle of grass, an open space with flowering shrubs and trees, and a certain amount of paved footpaths, and we hope, when facilities permit, to erect a flagstaff of some consequence in order that the whole area may be clearly known and easily approached by the motorist from London. The London Road turns into it from the south at the by-pass or the back end when the new way to Brighton is constructed. I may add that the probability, or possibility, of a new London-Brighton Road appearing to the east of Crawley was not the least of the difficulties facing the planners, because quite clearly approach would be from the west, and, until such time as a road was constructed, approach would be from the east and the old story of two stools applies. It is extremely difficult to plan the two fundamental types of approach of that kind.

Roads in the factory area will be completed by the end of September or the first week in October of this year and, therefore, quite a substantial amount of factory space will be immediately available for letting.

In addition to these factories carried out by private contract and, of course, private finance, will be coupled standard factories which have been designed by the Crawley staff and which will be let on a floor space basis to people who wish to run them and who do not wish to erect their own factories. Those factories have been out to tender; the tenders have been received and we are now awaiting financial approval prior to placing the contract for the erection of them.

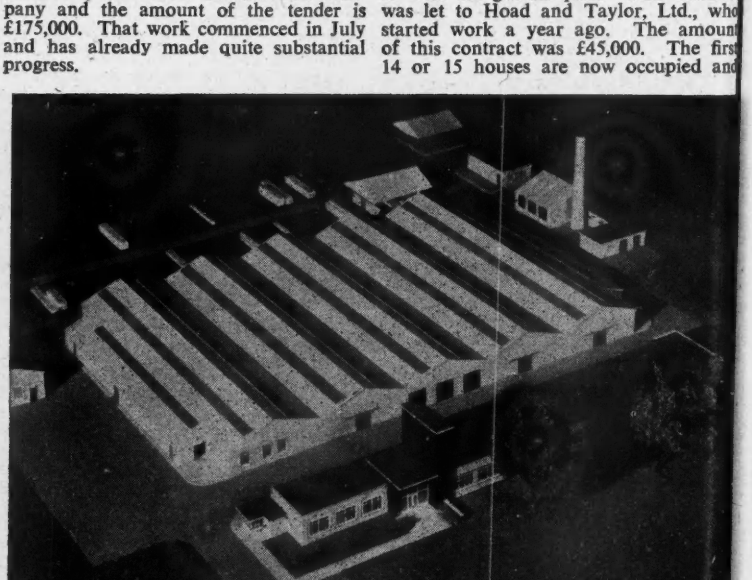
Crawley then turned its attention to the construction of homes. It first of all had to plan its town, then its neighbourhood units. The first neighbourhood unit to be considered was West Green, which is already very largely developed. The development tends to be sporadic, added to which are the difficulties of producing a really comprehensive plan, and the plan also has to take into account the fact that West Green will impinge on the town centre. Therefore, there had to be some settlement of the town centre line before the drawing could be completed. It was also necessary to bear in mind the fact that Horsham has been building a considerable amount of houses for its own residents in the area and clearly all new development must be incorporated in the neighbourhood unit. This has now been completed and the contract for the roads and services has gone out to tender; the tender has been secured by the Turriff Construction Company and the amount of the tender is £175,000. That work commenced in July and has already made quite substantial progress.

Danger of "Colonies."

It was clear that if the Corporation completed the development of West Green before it turned its attention to anything else, there was a very great risk that it would do one of the undesirable things in town settlement as distinct from town planning—it would run the risk of settling its people in colonies, that the first workers in the first factory would live in the first unit in West Green, and so there would be a tendency for those people to see each other at work, to see each other at home, and to see each other at play, and, finally, to throw each other out. Crawley thereupon turned its attention, almost before the ink was dry, from West Green to Northgate, which is its next neighbourhood unit, and successively to Three Bridges and to Southgate, and it planned up to the most complete point possible each of those neighbourhoods.

The plan for Northgate has been complete for some time and negotiations are on the verge of completion with Willment Brothers, Ltd., to enable them to construct the first portion of the Northgate roads with the labour which will finish the industrial area road at the end of this month or the beginning of next, and to secure continued use of its labour it will enable a second neighbourhood unit to commence so that the workers in the first factory to reach Crawley can be distributed between two neighbourhood units and possibly three.

In dealing with housing, it was obviously necessary to provide houses at a very early date, first of all for the Corporation staff, which have been drawn from far away, and for certain key workers in specified industries, and so a contract was let for 34 houses to be constructed in that part of the neighbourhood unit of West Green. They were building on a road laid down by the Architects and Planning Consultants before the plan was completed, but with a general idea that it can be made to fit in with the general plan. This contract was let to Hoad and Taylor, Ltd., who started work a year ago. The amount of this contract was £45,000. The first 14 or 15 houses are now occupied and



FIRST CRAWLEY FACTORY. A model of a factory designed by Albert E. Barnard, A.R.I.B.A., which will be the first to be constructed at Crawley New Town. It will be occupied by Messrs. W. C. Youngman, Ltd., woodworkers and engineers.

the remainder are likely to be occupied before the end of the year.

The construction of housing embraced more than one problem. Apart from the mere building of houses, it was desirable that as much experimentation should be made as possible of the type of house most economical to build in the neighbourhood, the type of house the public liked best, so that people could have a choice of house. Crawley architects therefore set to work many months ago and designed a very considerable number of different types. I think they vary somewhere between 17 and 24. The next contract for 126 houses, for which tenders have already been received, will build houses of all these types. Rather to our surprise and apparently as the result of very keen tendering, the price of building this small number of houses of each type appears to be no greater, indeed might even be less, than building houses to a uniform programme on a much larger scale. Crawley will be able to show to the public houses of a very considerable variety and type, all coming within the Ministry of Health Manual as far as size and finished cost are concerned, and will be able to let the public themselves judge whether any or all of them are successful.

Mixed Communities.

In the first neighbourhood unit Crawley has planned a certain number of sites suitable for single houses to meet the owners' own ideas of occupation and design, and it is hoped, as soon as the roads are built, to offer these sites to the public so that any who wish may retain their architect and build a house to their own design. It is hoped as soon as possible to build houses for one or two other grades of the population so that it will have a number of different types of people among its community right from the start, apart altogether, of course, from the very wide range of types of people who live in the Crawley area at present.

It is quite clear that these schemes cannot be carried out without considerable access to labour for the Crawley area. The south-east area has never had a very large supply of labour and the labour it has is spread over the country, and, prior to the war, it was largely engaged in housing or farm work, apart from those people engaged on building work in the coast towns. So Crawley turned its attention to the sources from which labour might be expected to be drawn to build the town, and it was clear that some amount of local labour could be anticipated. It was equally clear that as soon as the magnitude of the Crawley works was known that building labour would be drawn from a centre which provided them with continuous and varied work for at least 15 years, but it was also clear the labour would have to be drawn from outside sources. There were two or three main outside sources. One was the area of London, a second was coast towns, where some small amount of unemployment is believed to exist, and the third was imported labour, such as Welsh miners.

So far as part of the labour is concerned, London is 25 miles away, Brighton is 25 miles away and other coast towns very little further. Wartime experience showed that a certain amount of labour can be expected to travel daily to its work; a certain amount would need to be resident. Crawley had the remains of an Army camp in the area which housed 2,000. It also realised that smaller numbers would be needed more quickly, and so it refurbished a sergeants' mess for 40 people, which proved valuable as an architects' office and is now a hostel for 40 men. It also took over from the Ministry of Works another small hostel housing about 34 people, and it has now received tenders and is on the verge of letting a contract for some 500 men.

It confidently expects that a good deal of labour will move to Crawley, in due course. It is not unmindful of the labour required by the industrialists, many of whom will bring not only their good workers but a great deal of their manufacturing labour with them, and that all those people will want to be housed and will want to live in close proximity to their factories. It is indeed the economic justification of new towns that the labour and the industrialists will be so closely in contact with each other and they will, first of all, get to know each other as human beings. It will also mean that no workman or workwoman is going to be more than a matter of five to 15 minutes' bicycle ride from the factory and many of them will be within a shorter distance.

That is perhaps a general picture of the practical side of building Crawley. I have spoken to you to-day mainly about building and building work, but I would not like you to think that the whole of the time of the Corporation has been spent on this. It has devoted a very considerable amount of time to designs which it hopes will lead to the building of a really beautiful town. It has traversed all kinds of things which will affect the well-being of the people and it has felt that in doing so it has fulfilled the dual purpose, which is that of marrying up the social and economic sides.

Method of Tendering.

Crawley has felt that the system of open tendering has many undesirable features, although it is a great political safeguard to the people who operate it. In theory, and to the mind of the layman, if you open your tenders to all and sundry and take the lowest price, you have served your community well. But a more complete knowledge of the industry shows that that method has many defects, so that we have decided that in all cases we will put an advertisement in all the local papers inviting all builders to send in their names. The number of names received by this method is sometimes very large. From that list we have made a careful selection of builders in the area, builders who have applied on more than one occasion, builders who are very keen and, if we do not know their references, we have checked them. We select a list generally of about 12 in number (and we have tenders from many people who have not been invited to tender) and, when we have received these tenders, we accept the lowest. All the tenders I have read out to you to-day, with one possible exception, were secured by that method. If, therefore, the Federation is taking notes of this, we would like it to tell its members to keep their eyes on the advertisement columns of the local Press. Another hint, if I may mention it, is having received anything up to 50 or more applications and having selected 12, we have in each case spoken to each builder and said, "Notwithstanding that you sent in your name, do you wish to tender?" We have received an affirmative reply in each case. Notwithstanding that, on the day of opening the tenders we have received 12 or more envelopes, some of which merely contain the contractors' apology. Therefore, if we are to try to help you to avoid wasteful tendering, you for your part must co-operate and, where we limit our list to 12 in number, we do expect to receive 12 honest tenders, not nine and three apologies.

The total value of the contracts which have so far been let is £507,000.

The value of the contracts for which we are waiting approval, finished or otherwise, at the moment is £270,000.

The value of the work on the water scheme for what we may well call North-East Sussex, which has to go to tender, collectively with its pipeline and other services, wil be a further £1,000,000.

BUILDING SCIENCE AND RESEARCH

Dr. Parker's Talk at Tunbridge Wells

THE marked development of building science in recent years was commented upon by DR. T. W. PARKER, F.R.I.C., Deputy Director of Building Research, Building Research Station, Garston, when he delivered a lecture at Tunbridge Wells Building Week on September 21. Mr. Keith Martin, President of the Southern Counties Federation of Building Trades Employers, was in the chair.

Following is a summary of Dr. Parker's remarks:

Although there have been isolated examples of science applied to building in the past, a concerted and organised investigation of the application of science to building does not date back more than about thirty years. During this period, however, a great deal of work has been done in which Great Britain has played a leading part. It is interesting that the original lead arose from the demand, towards the end of the 1914-1918 war, of a means to assess the value of new methods and materials in housing and that precisely the same demand arose after the last war.

The expanding field of building science during the few years since the end of the war is striking. Up to that point, concentration was very largely on the behaviour of materials and constructional elements when exposed to the natural agencies outside or to man-made conditions within; on the properties of structures; and on some of those factors which affect the comfort and efficiency of the user and of heating. The uncovering of the particular scientific principles involved in traditional building was being achieved by careful study and application to the cases of non-traditional materials or techniques was a natural development. Since this study first began, very considerable advances have been made. It is still continuing and of course is an essential basis for any procedure in which the application of science is used as an alternative to the older use of traditional experience. It is difficult to make generalisations about the sort of progress which has been made, but as an example on one aspect, that of the durability of materials, the need to study each material as a separate entity can be mentioned. The factors in nature which lead to progressive decay can be identified, but they have a different relative order of impor-

tance with different materials because of the different compositions and physical structures involved. There is, therefore, no single solution to the problem of weathering. A more general point of practical importance to the industry is that the results of such studies have, on the whole, been absorbed into the industry as it existed without the need for considerable or disturbing changes. Much of the newer information can take its place behind the scenes, for example, either through the materials manufacturers or by improvements in quality through improvements in British Standard Specifications, and so on.

The widening field since the war may, however, ultimately lead to much more change in many sides of the industry. The study of building processes can cover a wide range of building activity. At one end it may be an attempt to find the scientific principles important, say, in a craft process, such as that of what is meant by the craft terminology in describing mortar or plastering mixes. At the other it may be the quantitative and systematic examination of how a whole building job is done. The last, in effect, is the application of operational research methods in the industry in the same way, and it may be hoped, with the same success as attended operational research methods on war problems.

Another, and quite different, aspect is also becoming important. The phrase "functional requirements" has become very well known. The idea which it expresses has, of course, been a continuous factor in building through the ages. The Pyramids might be quoted as a classical example of the achievement of the desired functional requirements of durability, combined with shelter and protection of the contents. However, the scientific analysis and quantitative treatment of the subject is a very recent thing; it does not appear before the last war, for example. Even now, although the idea has become common, it is mainly so in terms of housing. But in fact it is not peculiar to housing; it may, and undoubtedly will, be applied to any type of building. Fundamentally, it involves a different method of scientific approach in that it attempts to set out some, at least, of the basic physical properties a building as a whole should possess, and to give them quantitative values, independently of the means whereby the results can be obtained (although the latter, too, is amenable to detailed scientific treatment).

This procedure affects building designers, because it increases the number of relevant items which have to be taken into account in the design, although in some degree it may ease their task because it is easier, or perhaps ultimately more satisfying, to solve the design when there is a quantitative framework than to work to a guess at a probable result. It also affects the building materials industry because the achievement of the physical properties wanted may alter the relative proportions of the different materials used or even make it necessary to introduce new ones. Finally, if materials are altered in proportion or type it may produce modifications in procedure both for the builders proper and for their craftsmen.

The Path to Lower Costs.

What advantages may we gain by all these different scientific treatments? The need to use building science methods as an alternative to the traditional in the actual use of materials is already accepted as the only practical solution to some of the problems of the industry, and in the long view this is one of the ways in which science may help to keep down costs—not perhaps so much in first costs, but in running or maintenance charges. The study of building processes is perhaps the most immediate possibility so far as the building science side is concerned in this important matter of reduced costs and of increasing productivity.

Lastly, there is the new approach via "functional requirements." Much has already been publicised on some immediate and tangible benefits, for example the possibility of fuel economy to an extent which might have an important influence on the nation's fuel situation. There remains something less easy to give concrete expression. A far greater degree of comfort in both working and leisure conditions could be produced and with it a probable increase both in health and efficiency. These benefits cannot happen overnight, but a beginning has been made already, and with the continuation of the present goodwill and co-operation of the industry it may well be that future building historians will note the period of the immediate post-war as one of the most important in the history of building.

SOCIAL PLANNING AND THE NEW TOWNS

The Example at Aycliffe

STEPS taken at the new town of Aycliffe to meet social planning problems of the past were described by DR. DENNIS CHAPMAN in the course of a paper read before the Psychology Section of the recent British Association annual meeting held at Newcastle-upon-Tyne.

Following is a summary of Dr. Chapman's remarks:—

Social planning for a new town is handicapped by an almost complete lack of scientific information about the influence of urban environment on social behaviour. To a less extent social planning is handicapped by an absence of agreed social aims. In these circumstances considerations of administrative convenience, health and æsthetics have tended to dominate planning and their requirements can be stated with precision.

There is some evidence that the social life of the inter-war suburb was unsatisfactory, but it is not clear what factors were the cause of this. It is true that architectural design was only in exceptional cases concerned with social relations; it is also true that, except where women housing managers were employed, there was no resettlement of the families who moved from the old houses to the new. But there were also wider influences causing families to retreat from the world. The fear of war and of unemployment undoubtedly made many seek the illusory security of the "Englishman's Castle" in purchasing their own home. (This process has continued; evidence from an insurance company transacting house purchase business suggests that there are still many working-class families who give up a council house in order to purchase a less good private house costing in weekly payments two or three times their former rent. In these cases the striving for higher social status is also an important factor.)

To meet these problems we have planned at Aycliffe on the following lines:—

(1) To provide dwellings which take account of the different social habits of different kinds of people. This recognises the difference of interest in different social groups, for example, between clerks and manual workers of about the same income group, as well as between the professional and clerical and other groups. We also recognise the difference between families whose interests are intellectual—reading, music, Workers' Educational Association, and those whose interests are manipulative—handicrafts, gardening, bee-keeping, or animal-keeping.

(2) To provide dwellings which will facilitate family life, particularly the needs of children, and paying attention to emotional problems as well as physical and mechanical ones.

(3) To allow the maximum possibility of social relations between neighbours. Studies have shown that in an established community there is a great wealth of social activity between housewives who live in neighbouring houses and, to a less extent, between other members of the family; as well as the development of friendship and mutual visiting, there is a great deal of mutual aid in shopping, housekeeping, care of children, and at times of sickness and crisis. The solutions of the problems of establishing social relations between neighbours is in part architectural, but also is a problem of tenant selection and resettlement to be carried out informally by the housing manager (this is the policy of the planning team, but not necessarily that of the new town corporation.)

(4) To allow the maximum possibility of social relations between persons living in the same ward, the ward designed to be relatively small to provide a large number of occasions when persons might meet casually in the course of shopping, visits to the library, etc., or when on errands of common interest, like taking children to school.

(5) The planning of institutions in relation to the age of the persons using them, and to be small enough to facilitate easy social contact. Thus, we have argued for small nursery schools and primary schools in opposition to the current trend for large schools for administrative convenience.

(6) The planning of the centre of the town to be a focus of community activity, and to facilitate pageant and ritual designed to create common favourable attitudes to the town.

(7) The planning of decorative features and symbols, including street names, to contribute to the formation of favourable attitudes to the new town.

(8) The planning of civic education, including museums and outlook towers, to create the maximum interest in the citizen in the planning process. The outlook tower conception of Patrick Geddes permits the citizen to see the new town as it grows, and is the principal exhibit in the museum of civic education.

(9) To allow for the maximum possible participation of citizens in the planning process. There is a possibility here of conflict between the new town corporation which is appointed, and which may wish to retain its authority, and the need to devise new social forms to enable citizens to be the principal participants in the planning process.

These matters will be discussed with some reference to the structure of the town planning team and the problem of developing new social forms to make the new town a product of the combination of expert and citizen.

WELDING AND HIGHER PRODUCTIVITY

A Presidential Address

THE contribution which a broader acceptance of the advantages of welding could make towards higher productivity in industry was emphasised by MR. R. R. SILLIFANT, in his presidential address to the North London branch of the Institute of Welding in London on September 29.

Mr. Sillifant began by asking what welding had to offer as a means towards higher productivity. Experience in the development of welding processes for many purposes had shown him that an educational drive was wanted to convince the tradesmen that by adopting a process or method which gave higher productivity per man/hour, he definitely assisted the national interest. Even in these times, the welding processes were regarded by some of the rank and file of workers in many industries as "labour saving," and, perhaps, as the result of past experiences, were treated by them as something to be subjected to restrictions and prohibitions. The use of the term "labour saving" was, indeed, unfortunate, because behind it some men saw unemployment; but surely, in these times, when everybody in the nation was called upon to make sacrifices to ensure the success of a Government policy to maintain, by any means, a state of full employment, this fear of unemployment seemed out of place. One did not doubt that enlightened leaders of trade unions were doing much to encourage straight thinking and proper action among their members, and extensive schemes of worker and adult education, vocational training, as well as works production councils and welfare schemes, were now sponsored by them, all with a view to ensuring that each man got to know his job and did it under the most favourable conditions. In this connection, he would refer particularly to the educational activities of the Plumbing Trades Union in regard to the adoption of welding in their industry.

The speaker went on: But in spite of all this, I have experienced, on more than one occasion, instances where, at the request of the local official in a particular works, welding machines of high inherent output have been so restricted as to spoil their value as productive units, largely because they have been branded "labour saving," and good care was taken in all sorts of ways to see that no labour was saved on anyone's part, and that the production time and labour cost for the job, with or without the machine, were the same.

There is much yet to be done to eradicate uninformed opposition to modern production methods, with so many of which welding is intimately connected. Because of this connection, it is regarded with suspicion as an occupation which has displaced more antiquated methods of fabrication, and so often, only locally, recourse has been had to restrictive practice similar to those cited above in an attempt to redress what was considered to be a threat to the tradesman's security.

It is clear that, in the modern context where his work is being reduced, the riveter, particularly in shipbuilding and constructional engineering, may feel that he should prevail on his colleagues in other trades to support him by passive resistance to new ideas, in a stand against loss of his trade. But the riveter, whether he plies his trade or not, is still a potential producing unit, and if technological progress makes away with riveting, just as the advent of iron ships and steam power made away with the shipwright and sailmaker, then facilities should be given to him to acquire new skills and to apply them where needed. This should be done without pecuniary loss to himself, and in my view, the great trade unions would do well to increase materially that portion of their income devoted to these pursuits, and in present circumstances, to place less emphasis on reduction of working hours and claims for wholesale wage increases. I am fully convinced that in the welding trades at least, the desire for technical knowledge among the majority of operatives is very strong, and that to fulfil it the unions should lend much more of their great weight to such schemes as "Training within Industry," and I am also convinced that institutions such as this would do all in their power to aid and abet such action, both at high level and in the branches. Technical institutions exist in part for the collection and dissemination of information, and act also as storehouses of that attribute termed "know-how."

At present, action is being taken in these fields on an international as well as a national basis, and their ability to serve the national interest as sources of information goes without question. Why not, then, use these facilities to the fullest extent? By these means, we should be able to convince every tradesman that there are qualities of labour, and that, in general, the highest quality of labour can command the highest price. We should also be able to show that the way from the low-quality low-price labour standard to the higher is by the acquisition of knowledge and technical skill, which, in productive terms, is a highly saleable commodity.

PRESENTATION TO N.F.B.T.E. PRESIDENT

Joint Gift of Sussex Associations

To mark the occasion of his year of office as national President of the National Federation of Building Trades Employers, East Grinstead and District and Horsham and District associations joined forces on September 28 and at a dinner given in his honour, presented Mr. Norman Longley, of Crawley, with a folding camera and Mrs. Longley with a handsome leather dressing case.

The presentations were made by Mr. Ernest H. Munnion (Ardingly) and Mr. A. V. Murrell (Murrell Bros., Horsham), presidents of East Grinstead and Horsham associations respectively.

In his speech, Mr. Munnion briefly related Mr. Longley's steady rise to eminence in the Federation, and said that almost every time they opened a national paper or a trade paper like *The Builder*, they read something Mr. Longley had said, and he felt that Mr. Longley had bestowed great credit upon Sussex and upon their two associations.

Responding, Mr. Longley said no one could have taken office in a more interesting year. The committee which had given evidence before the Working Party into the conditions in the building trade had emerged with flying colours; it had been his privilege to go to Rome as an employer representative on the International Labour Office, and now they were awaiting the report of the team which had just returned from the States, where they had been sent to investigate working conditions there.

HOUSING PROGRESS

Figures for August

THE Housing Progress Summary presented to Parliament as a White Paper jointly by the Minister of Health and the Secretary of State for Scotland shows that the number of permanent houses completed in Great Britain during August was 14,556, compared with 14,634 in July.

This brings the number of permanent houses completed during the year to date to 130,367, made up as follows:—January, 15,897; February, 16,655; March, 20,160; April, 15,110; May, 16,866; June, 16,489; July, 14,634, August, 14,556.

The total number of houses completed is 713,233 (556,087 permanent and 15,146 temporary).

During August, homes were provided by new building, repair of uninhabitable houses, conversion and requisitioning for 15,964 families, compared with 15,832 in July. This brings the total number of families rehoused by these methods under the post-war programme to 1,006,677. Excluding requisitioned houses, the number of additional homes provided is 978,017.

BUILDING ON CLAY

The Short Bored Pile

THE possibilities of using short bored piles as an alternative method of providing safe building foundations are the subject of a recent statement issued by D.S.I.R. The statement is as follows:—

A large part of South-Eastern England is covered by a firm, shrinkable clay. This clay has adequate load-bearing strength but it dries and shrinks in summer and swells in winter. In such ground shallow foundations for a building are dangerous, for the clay shrinks away from the footings during the warm, dry weather, and foundations settle unevenly and the walls crack. Thousands of buildings have suffered in this way, sometimes nearly every house in a street being affected. Repair is always difficult and costly, and further damage may often occur.

An obvious way of avoiding trouble is to make the foundations at least 3 ft. 6 in. deep, for at this depth movement due to shrinkage is very slight. But deep foundations are expensive and cheaper solutions are being sought.

The Building Research Station, in collaboration with the Ministry of Works, has been examining the possibilities of short bored piles as an alternative method of providing safe foundations. Holes are bored in the clay by hand or mechanical auger to a depth of 8 ft. or more, and are filled with concrete, forming piles which may be spanned by floor slabs, or by precast or cast *in situ* reinforced concrete beams. The spacing and size of piles depend on the site plan, the load to be carried, and the soil strength.

Such foundations have already been used. At two schools, one at E. Barnet and one at Chigwell, the Building Research Station and the Ministry of Works have co-operated with the authorities concerned in the study of the problems involved. The method has been shown to be practicable and capable of saving both manpower and material.

The D.S.I.R. stand at the Building Exhibition at Olympia from November 17 to December 1, 1949, will show examples of the damage caused by clay shrinkage, descriptions of the methods of boring, and some details of the investigations carried out by the Building Research Sation. It will be illustrated by a model of one of the schools built on short bored piles.

THE HOUSING OUTLOOK

Can a Cut Be Avoided?

From a Correspondent.

MR. ANEURIN BEVAN, speaking at Bristol on September 21, said that the Government had "no intention" of cutting the housing programme. This is a popular phrase with politicians at present. Even Sir Stafford Cripps on July 6 last told the House of Commons "The Government have not the slightest intention of devaluing the pound." Just as circumstances compelled a change in the economic policy, so new conditions may force a further cut in municipal housing in 1950.

Up to the end of last August the number of permanent houses completed during this year in Great Britain was 130,367, and by Christmas the total number may well be 190,000.

For next year Mr. Bevan and his officers have foreshadowed the completion of 215,000 houses, but this includes conversions. During September the Minister of Health sent out an explanatory guide to the new Housing Act to 1,500 housing authorities, in which he pointed out that, "Although the building of new houses will in general be the most satisfactory method of meeting the existing shortage of housing and replacing houses which are unfit for human habitation, an important contribution to both these ends can be made by the improvement or conversion of existing houses or other buildings." Towards this work, provided the estimated cost is not less than £100 or more than £600, grants will be payable by local authorities for approved schemes carried out by private owners.

It will obviously take considerable time to negotiate these grants, and the estimate of the number of conversions to be completed next year may prove to be optimistic.

As far as new houses are concerned, even if the Government are able to avoid any actual cut on economic grounds, it is already clear that the programme may be thrown out by two factors.

First, the timber situation is most uncertain. The branch of the Board of Trade known as "Timber Control," which buys in overseas markets and offers its purchases to National Softwood Brokers, Ltd., is to-day the only buyer of softwood timber. The imports have fallen from 422,000 standards in the first half of 1948 to 340,000 in the first six months of this year. Our stocks are less than half what they were over a year ago. On top of this comes the 25 per cent. cut in imports, including timber, which Sir Stafford Cripps has announced must continue. With the best will in the world, and with no official "intention" of cutting the housing programme, it remains a mystery how supplies of timber can be cut without reducing house-building in the near future.

The second factor which is still uncertain, and on which further information may be available as a result of the discussions on devaluation, is that of costs. It appears, however, that the rise in the price of basic metals like tin, zinc, copper and aluminium and, above all, lead, must have its repercussions upon building costs. The new metal prices, fixed by the Ministry of Supply, which came into operation on September 22, raised the selling prices of copper from £107 10s. per ton to £140; for aluminium from £93 to £112, and for soft pig lead from £87 5s. to £122. These are tremendous increases, and although it is possible that there may be further changes in the course of the next few days, it is already obvious that they must have their effect upon the cost of house-building.

In short, Mr. Bevan may well have no "intention" of imposing any further housing cuts, but he is not his own master. Mr. Harold Wilson at the Board of Trade is responsible for timber prices, and Mr. Strauss at the Ministry of Supply for the prices of metals, while above all is the overshadowing figure of the Chancellor of the Exchequer. To attempt to be dogmatic about the future quantity and quality of municipal house-building in Great Britain is as risky a business as attempting to tip the winner out of a number of unknown horses.

INSTITUTE OF BUILDERS

Examination Results

THE following were successful in the 1949 examinations of the Institute of Builders:—

LICENTIATE DIPLOMA.—J. A. Allen (Ryde, I.O.W.), S. W. Ashley (Burton-on-Trent), S. V. Aspinall (Willington), W. A. Bell (London), K. Bennett (Warrington), L. J. Bennett (London), A. H. Blay (Kenton), F. Blaydes (Doncaster), H. Boardman (Swinton), R. S. Boater (Woking), A. H. Bond (Bath), A. J. Bowler (Wembley), C. W. Brown (Worksop), S. Burrows (Cheltenham), L. F. Burton (Birmingham), R. T. Capeling (Maidstone), F. J. Chandler (London), R. E. Chatwin (London), N. E. Clarke (London), R. Collin (Chester), E. N. Connell (Doncaster), M. W. Cooper (London), B. F. Cosgrove (Gidea Park), W. H. Cotton (Burton-on-Trent), S. Cowley (Ilkeston), D. H. Cull (Southampton), C. G. D. Dalton (Durban, S. Africa), K. J. Davey (Cambridge), L. Eteson (Uxbridge), D. Everatt (Barnsley), E. C. Foot (Greenford), W. W. Gale (West Bromwich), W. J. H. Greenaway (Harrogate), W. Greenwood (Huddersfield), C. H. Groom (Leicester), J. W. Guest (Leicester), F. A. Haden (Leicester), D. E. Hardingham (Cambridge), E. Hardisty (Bradford), P. F. Hillier (Brighton), F. A. Hudson (Chippenham), J. T. Hunt (Wigan), K. W. Hunt (Cheltenham), J. Hutchinson (Halifax), P. Ibbotson (Barnsley), S. K. Jenkins (Brecon), D. A. Johnson (Rushden), D. Jones (London), E. H. Jones (London), L. W. Kelsey (London), G. I. Kidd (London), S. J. Lewis (Caerphilly), E. H. Limb (Leeds), P. D. Lines (London), J. C. Magenis (London), R. C. Manning (Leicester), B. S. Margrett (Yelverton), A. R. Masters (Aldershot), D. L. L. Miles (London), D. A. Moessl (Derby), J. W. Moffatt (Durban, S. Africa), J. Moreland (Belfast), A. W. C. Morris (London), S. J. Mountford (Bovey Tracey), E. Needham (Bury), J. T. M. Newbigin (Newcastle-on-Tyne), D. E. C. Norbury (London), J. North (London), W. E. Padgett (Hull), J. R. Parmley (St. Helens), H. Pennington (Southport), R. E. Pettit (London), P. R. Prior (London), J. C. Pugh (Neston), J. H. Ray (Maidstone), J. Riley (Luton), A. J. Roberts (Cheltenham), C. Roberts (Westcliff-on-Sea), L. H. Rothwell (Manchester), J. R. Sellars (Coventry), T. A. Simms (Hove), R. G. Smith (Romford), T. E. Smith (York), J. A. Stott (Bradford), E. G. Thomas (London), F. W. Viles (Worcester), I. Walton (Consett), R. West (Nottingham), R. J. West (Laindon), P. L. White (London), W. H. B. White (Leicester), L. P. Whitting (London), A. D. Wileman (Birmingham), R. Winsor (Southampton), and M. W. Woolveridge (London).

ASSOCIATE DIPLOMA.—L. J. Bush, L.I.O.B. (Bromley), J. A. Liddell, L.I.O.B. (Surbiton), F. R. Peckett, L.I.O.B. (Ashford), L. Stansfield, L.I.O.B. (Norwich), and D. E. Warland, L.I.O.B. (Harrogate).

New Lighting at London Stations.

In order to effect improvement in the lighting at Charing Cross and Waterloo Stations, work will soon commence on the replacement of the existing system by modern fluorescent "daylight" lamps. As the new escalators and subways at Charing Cross and the new ticket hall, escalators and subway at Waterloo, under construction in preparation for the Festival of Britain, will have fluorescent lighting, it has been decided to equip the existing sections of these stations similarly, both to maintain uniformity of appearance and to give improved lighting.

OUTLOOK FOR STONE-MASONS' APPRENTICES

London Prize Distribution

THE Master of the Worshipful Company of Masons, Major H. R. Watling, C.B.E., J.P., distributed the prizes won by stone-mason apprentices in the examination for 1949, at a ceremony in the Council Chamber of the London Master Builders' Association. Mr. G. W. Burlington, President of the London Association of Master Stone Masons, presided, and among others present were Mr. Nigel Hannen, President, L.M.B.A., Mr. L. A. Chackett, F.R.I.B.A., representing the R.I.B.A., Mr. H. J. O. Weaver, Divisional Secretary of the Amalgamated Union of Building Trade Workers; Major Leslie Shingleton; Mr. H. J. Falkus; Mr. D. E. Woodbine-Parish; and Mr. E. L. Jones and Mr. R. E. Stenning, secretaries respectively of the London Region of the National Federation of Building Trades Operatives and of the L.M.B.A.

In inviting Major Watling to present the prizes, MR. BURLINGTON said the standard of work of the apprentices, as both their practical work and theoretical papers showed, had at least been maintained and probably improved, though their number was slightly less than last year. The importance of the stone mason was being increasingly recognised, and it was vital to the future of the building industry to have a steady and growing number of young men taking up apprenticeship in stone-masonry.

MAJOR WATLING said that the number of stone-mason apprentices was far below what was required. He looked forward to a bright future for the mason's trade. There were fine buildings to be built, and he hoped that in later years people looking at them would say—"These were built by fine men."

MR. NIGEL HANNEN, MR. CHACKETT and MR. WEAVER, speaking respectively from the point of view of the building trade employer, architect and trade-union official, all spoke in the same vein and, in brief, speakers looked forward to an era of fine buildings to follow the utility buildings of to-day.

The prizes consisted partly of books and partly of the tools of the craft.

After the presentation the boys were entertained to tea by the L.M.B.A.

BUILDERS AT OLYMPIA

The National Federation—L.M.B.A. Stand

AN artist's impression of the work now going on in the new House of Commons forms the focal point in the stand which the National Federation of Building Trades Employers and the London Master Builders' Association are staging at the Building Exhibition at Olympia in November. It is the work of Mr. G. Foster Fletcher, a former Slade student. He painted a thirty-foot mural fantasy for this year's B.I.F., and is now engaged on a series of decorative panels for ship interiors.

The National Federation—L.M.B.A. stand has been designed by Mr. H. Warren Wilson, A.R.C.A., Lecturer in Decoration at University College, who for several years before the war was adviser on decoration to the Fairs Department of the Department of Overseas Trade and was responsible for the design of many of the overseas exhibitions which the D.O.T. organised in those days.

L.M.B.A. PRIZES FOR BUILDING APPRENTICES

S.W. Area's Encouragement of Young Craftsmen

TWENTY students from junior technical schools and technical colleges in their area were the guests of the L.M.B.A. (South-Western Area) at a luncheon and prize-giving ceremony held at Kingston-on-Thames on September 28.

The students were selected by the principals of their respective schools or colleges for showing the greatest promise in their studies, and each received a prize in the form of books.

Distributed by Major L. Shingleton, O.B.E., a past-president of the L.M.B.A., and late chairman of the London Regional Apprenticeship Committee, the prizes were given under the Sidney Gaze Memorial Fund, which was inaugurated by members of the L.M.B.A., South-Western Area, to provide for the annual presentation of prizes to students studying building crafts.

MR. H. W. BANKS, chairman South-Western Area, L.M.B.A., said it was the first ceremony of its kind the Area had held, and he hoped it would now become an annual event. They wished not only to encourage the boys themselves but also took the long-term view that their idea would help to persuade lads to enter the industry and become the craftsmen of the future.

Before distributing the prizes, MAJOR SHINGLETON addressed some remarks, first to the apprentices, then to parents who were present, and also to employers.

He reminded the boys that within the area in which they all lived (Kingston, Richmond, Wimbledon and Twickenham), there were no fewer than seven technical schools providing courses of study in building crafts; thus they had far more opportunities to learn than had boys who lived in the provinces, where, in some instances, no facilities whatever were available.

Emphasising the importance of having a keen interest in whatever job they were engaged upon, Major Shingleton mentioned the enthusiasm of American building operatives, whose work, he said, had greatly impressed the British building team which recently returned from the U.S.

He then asked the boys to remember that a man who worked with his hands was a worker; he who used his hands and his brain was a craftsman; and he who worked with his hands, his brain and his heart was an artist.

He suggested they should all try to be artists. Another phrase he said they should keep in mind was: "A man who never does more than he gets paid for, never gets paid for more than he does."

Major Shingleton told the boys not to be misled by the view that the fellow who works with his hands should be regarded in a derogatory way. He then referred to the demand arising for stonemasons, and said that although the carpenter's job might look cleaner and more attractive, timber was being used less and less in modern buildings, and he advised the young apprentices not to be too hasty in deciding in what branch they wished to specialise. More wood carvers and high-class painters would also be required, he added.

His advice to parents was, mainly, not to withdraw their sons from the technical schools before they were at least 17, for the work they did at school at that age was of immense importance to them.

To employers, Major Shingleton said he could not accept their excuse that it was too great a risk for them to employ apprentices. That there was an element of risk he admitted, but insisted that employers always had had to take risks. Even if apprentices were an expense to them in the first place, they would eventually prove to be good investments. He also urged employers not to overlook the apprentice master schemes, which provided them with men already partly trained. There were, at the moment, 230 of these men in London waiting to be placed.

Prizes were awarded to the following apprentices:—

TWICKENHAM TECHNICAL COLLEGE AND SECONDARY SCHOOL: I. E. Appleby (painting and decorating), M. A. Dixon (plumbing), P. McFarlane (brickwork), M. Sangster (carpentry and joinery), D. A. Garnham (plumbing), C. W. Henderson (carpentry and joinery), G. K. Smale (brickwork), and A. C. Thompson (painting and decorating).

WIMBLEDON COUNTY TECHNICAL SCHOOL FOR BOYS: D. A. Blundell (brickwork), P. J. Nye (carpentry), and E. R. Mason (plumbing).

WIMBLEDON TECHNICAL COLLEGE: H. J. Collick (carpentry), G. E. Hughes (brickwork), and B. J. Naylor (plumbing).

KINGSTON JUNIOR TECHNICAL SCHOOL: D. W. Bartlett (carpentry and joinery), R. Knowles (brickwork), and R. C. Sheppard (plumbing).

KINGSTON TECHNICAL COLLEGE: C. E. Basham (plumbing), L. D. Brown (brickwork) and J. T. Bassett (carpentry and joinery).

KINGSTON SCHOOL OF ART: E. A. Watson (painting and decorating).

RICHMOND TECHNICAL INSTITUTE AND SCHOOL OF ART: J. Williamson (carpentry and joinery).

IMPORT LICENSING RELAXATIONS

Many Building Materials Freed

THE removal of import licensing restrictions on imports into the United Kingdom of a wide range of goods, including a number used in the building and allied trades, from all countries to which the relaxations could be applied without involving loss of gold or dollars, was announced by MR. HAROLD WILSON, President of the Board of Trade, in the House of Commons on September 29.

Mr. Wilson said that the relaxations took the form of the issue of open general licences valid as from October 5. Referring to Western Germany, the President stated that under existing trade and payments arrangements additional imports from that area would involve an immediate risk of having to make dollar payments to Western Germany. German goods had, therefore, to be excluded for the time being from the scope of the open general licences. Discussions had been initiated, however, with the authorities in Western Germany, and His Majesty's Government hoped that it would be possible very shortly to find a mutually satisfactory basis to provide for a wide increase of freer trade between the two countries.

Following is a list of some of the commodities freed from U.K. import licensing restrictions:—

MINERAL PRODUCTS AND METALS.—Asbestos (raw and fibre), asphalt (Trinidad Lake), barytes, bentonite, blanc fixe, cadmium residues, cement gypseous (including burnt gypsum and plaster of paris), chalk (precipitated), common quartz (not including quartzite and quartz sand), diatomaceous earth, graphite, greensand (glauconite), kieserite, marble chippings and dust, mica blocks, slabs, splittings and waste, metals (other than alloys) unwrought, the following: arsenic, bismuth, cadmium, cobalt, europium, iridium, mercury, osmium, palladium, platinum, rhodium, ruthenium, selenium, silicon, sodium, thallium; ores and concentrates, the following: antimony, magnesite, tantalum, tungsten, vanadium; pig iron, rutile, silex blocks (whether shaped or not), slate and roofing slates, talc (steatite and soapstone, whether ground or not), vermiculite, zircon sand.

OILS, WAXES, GUMS, RESINS.—Beeswax, essential oils (natural but not terpeneless) other than: bergamot, birch tar, bois de Rose, lemon, peppermint Arvensis, peppermint Piperita, petitgrain, pimento, spearmint, wormseed; gums and resins, the following: benjamin (benzoin), copal resin (Pontianak or Manila), frankincense, karaya, opoponax, yacca, liquid rosin; pine tar, shellax wax, stillingia oil (tallow-seed oil).

MACHINERY AND PLANT.—Machinery, including parts thereof, the following: air-conditioning machinery, being machinery for cobling, heating, cleaning, circulating or controlling the humidity of air; brick and tile making machinery, cable and rope making machinery, cement making machinery, compressors and exhausters, air and gas, concrete mixing and laying machinery, cranes, including cranes mounted on road or railway vehicles, electric lamp and valve making machinery, electric machinery, including generators, motors, converting machinery, rectifiers, transformers, starting and control gear for electric motors, switchgear and switchboards (other than telegraph and telephone); foundry and diecasting machinery, glass-making and glass-working machinery, internal combustion engines, lubricating equipment, mechanical machine tools, for metal, wire or wood working; mechanical handling equipment, the following: cableway dragline excavators, conveyors, dumpers, earth scrapers, elevators, excavators, graders and levellers; mining machinery, including agitating, crushing, grinding, separating, screening, sifting, sorting and washing machinery; pile drivers, portable power tools, pumps, mechanical, of all kinds, including petrol and oil measuring pumps; rubber and plastic working machinery, steam engines, reciprocating, stone-working machinery, including breaking, crushing and grinding machinery, turbines, gas, steam and water (non-marine), water purification and softening (non-domestic) and sewage treatment plant, weighbridges, welding machines, well-boring machinery and plant; machinery accessories, the following: ball and roller bearings, belting of canvas, leather or metal, not including rubber-covered canvas belting, belt fasteners, chains, steel transmission, gears, pulleys; road-making plant, the following: mobile tar and asphalt plant, rammers, rippers, rollers, rooters.

VEHICLES, ETC.—Motor accessories and components; tyres and tubes (rubber) wheelbarrows.

FIRED CLAY PRODUCTS.—Tiles (glazed), tiles (roofing).

ELECTRICAL GOODS.—Accumulators (lead-acid and alkaline), batteries (primary), carbons (furnace, lighting and battery), electrodes (carbon and welding), insulators and other articles of porcelain, earthenware or stoneware, insulating cloth or tape, lamps, filament or discharge (including fluorescent) and parts thereof, lighting appliances and fittings, wires and cables.

METAL MANUFACTURES.—Baths, domestic, of iron or steel, whether enamelled or not, boilers, steam, fuel economisers, pre-heaters, superheaters and mechanical stokers, bolts, hasps and hinges, castings of iron or steel, cocks, taps, traps and valves for controlling gases, liquids or vapours, cookers, gas, and parts and fittings therefor, nails, rivets, tacks and staples (excluding wire nails, cut nails and cut tacks or iron or steel), perforated metal, pipes and fittings of cast iron, the following: gas, rain-water and soil pipes (including gutters) not exceeding 6 inches in internal diameter, and fittings therefor, roller shutters, sliding doors and sliding door gear, sanitary goods, domestic, of iron or steel, whether enamelled or not, the following: cisterns, cylinders and tanks, draining boards, sinks, wash-basins, spraying equipment, metal, stoves, grates and ranges (other than pressure stoves) for domestic cooking or heating with liquid or solid fuel, and parts and fittings therefor, tubes (collapsible), wash-boilers and wash-coppers, domestic, for use with gas, oil or solid fuel, wire netting, wire fencing and wire mesh (not less than 1½ in.) of iron or steel, mesh, wire, single strand, of iron or steel.

MISCELLANEOUS.—Engineers' tools (including gauges, measuring instruments, and cutting and forming tools for use with machine tools or with portable power tools) and parts thereof, linoleum and felt base floor covering, tiles of cement or concrete, tools, hand or bench, veneers, other than of plain birch.

A Social Evening.

The Provident Institution of Builders' Foremen and Clerks of Works held a successful social evening in the Victoria Hall, Bloomsbury-square, W.C.1, on September 28. Mr. P. Fotheringham-Parker, M.I.O.B., was present and welcomed the guests and the programme of dancing was interspersed with variety acts and also competitions for which prizes were awarded.

BUILDERS' FOREMEN AND CLERKS OF WORKS

£1,000 Pensions Appeal Aim

A PLEA to architects and builders to give clerks of works and builders' foremen greater opportunities to co-operate in the affairs of the industry was made by MR. R. W. TOOGOOD, immediate past-president of the London Association of Builders' Foremen and Clerks of Works, at the 53rd annual dinner of the association held at the Café Royal, London, on September 27.

Mr. Norman Longley, president N.F.B.T.E., was in the chair.

During the past year, said Mr. Toogood, in proposing a toast to "The Visitors," many prominent people in the industry had appealed for co-operation and teamwork, and in doing so had, invariably, mentioned only two members of the team—the employers and the operatives. Builders' foremen and clerks of works were also important members of a building team and were capable of playing their part if they were allowed "to see more of the ball." One way of achieving that was to include them, as well as the operatives, in the membership of various joint bodies which worked for the benefit of the industry. Mr. Toogood added that the building team which recently toured the U.S.A. would have been more representative of the industry had it included builders' foremen and clerks of works.

He then went on to say that many were aware of the existence of the National Federation of Clerks of Works and Building Foremen's Associations of Great Britain and he felt that it was in the best interests of the industry to foster and encourage its expansion. His Association and the National Federation were pleased with the interest which employers had shown in them and kindred associations during the past year, but he regretted that the publicity given to the matter in the early part of this year had not met with greater success. Concluding, Mr. Toogood said that members of his Association desired to work in full co-operation with their employers, for they knew it was their duty to maintain a balance in the relationship between employer and craftsman to ensure a happy job and an efficient industry.

In proposing a toast to the L.A.B.F.C.W., MR. LONGLEY said that the sole purpose of their being there that evening was to do something collectively to help the pension fund, through which the Association took care of its casualties. It was appreciated, he said, how much was owed to the relatively small band of men composed of agents, foremen and clerks of works whose function was to convert the directives of management into the physical achievement of craftsmen. Giving some details of the pensions scheme, Mr. Longley said that the 58 pensions at present paid out cost the association £1,800 a year and the last appeal was made in 1939. The aim of this year's appeal, which would remain open until the end of December, was £1,000. (It was announced at the close of the proceedings that £531 of that sum had been contributed by those present.)

Mr. Longley concluded his remarks by saying that in these days, when efficiency of management was more important than it had ever been before, no allowance could be made for waste of materials or effort. Against the background of full employment, management on the site was far more difficult than it was against the background of "hire and fire."—MR. F. C. HADFIELD, president, L.A.B.F.C.W., replied to Mr. Longley.

Responding to a toast to "The Architects, Surveyors and Builders," proposed by MR. A. G. RAVEN, vice-president, L.A.B.F.C.W., MR. NIGEL HANNEN, president, L.M.B.A., spoke of the necessity to encourage the British building operative to possess the zeal shown by his counterpart in the U.S.A.

NEWS IN BRIEF

Building Society's Centenary.

The Abbey National Building Society, which was founded in the City of London in October, 1849, is celebrating its centenary.

Apprentices at Sport.

The London Building Trades Apprentices' Sports and Welfare Association have issued their annual report for 1949, price 6d. Photographs of some of the past year's outstanding sports events in which members of the Association took part are included. The record provides good reason why the London building industry should support this work.

Direct Labour Scheme Deficiency.

Gateshead Corporation's direct labour housing scheme, begun in January, now shows a deficiency of over £1,000, and a decision has to be made whether to drop the scheme or to proceed at a loss to the ratepayers. In a report, Mr. H. J. Cook, A.R.I.B.A., chief architect, states that had the work been done under "ordinary building trade conditions," there should have been a £335 profit.

Mr. Cook made a special interim costing report on the scheme to the Town Planning Committee, which showed that the work should have cost £26,263, but the cost had proved to be £27,725, or £1,462 extra. Under Corporation conditions of employment there had been various additional payments, including £135 in respect of holidays with pay, £69 for sickness pay, and £190 for superannuation. The costing report has been passed to the chairmen and vice-chairmen of the Town Planning Committee and Housing Committee to consider and to report back.

British Builders' Departure.

Thirty-nine bricklayers and plasterers, complete with their tools and equipment, left Southampton Marine Airport on September 27 in a specially chartered B.O.A.C. flying-boat bound for Bahrein, on the Persian Gulf. Selected from 2,000 applicants, they formed the first batch of a 300-strong labour force which is to build living accommodation for employees of the Kuwait Oil Company. They will each earn up to £20 a week. Cigarettes will cost them 3s. 6d. a hundred, and bottled English beer 2s. a pint. They will live in tents, and each will have four Arabs to do the heavy work. They are expected to complete the work in eight months.

Room for More Building Students.

Speakers at the inaugural session on September 21 of the winter term of the building classes at Exeter Secondary Technical School expressed their concern that some boys of Exeter were not taking advantage of the opportunities available to them for training for the building trade. It was stated that at present there were only 55 students, while there was accommodation for 80. Mr. R. B. Dyer, the Head of the school, said they found many boys preferred to go into engineering, yet there were equally fine careers to be found in building. Mr. W. M. Brock, the Sheriff of Exeter, described the future of the students as "the job of winning the peace." As young builders they would be waging a war against prevailing conditions.

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TRADE NEWS

Employees' London Visit.

A party of employees of Messrs. Stramit Boards, Ltd., Stowmarket, Suffolk, made a coach trip to London recently, breaking their journey at Uxbridge to call in on their colleagues employed by an associated firm, Messrs. Linden Doors, Ltd. Following lunch in London, the party inspected some of the buildings upon which Stramit products have been used, including the new headquarters of the British Electricity Authority in Oxford-street where the top five floors are being fitted throughout with Stramit partitions.

A Brickwork Reinforcement.

Messrs. Galvo (Wire Netting), Ltd., Tipton, Staffs, state that they have produced a brickwork reinforcement which is marketed under the name of "Bondenn."

The longitudinal members are manufactured from wire 40/45 tons tensile which, it is claimed, gives a greater resistance to stresses than ordinary mild steel reinforcement.

The wire is galvanised as a safeguard against corrosion, thereby eliminating any risk of constructional failure due to this cause. The manufacturers further state that it has been specified and used by several municipal authorities in mining areas where subsidence is likely to take place. It is also recommended in cases where structures are subject to vibratory stresses due to machinery or heavy traffic conditions. It is manufactured in many widths from 2½ in. to 48 in.

Appointments.

Messrs. George Wimpey and Co., Ltd., building and civil engineering contractors, announce the election of two new directors, both from existing staff. They are Mr. R. D. Chalcraft, A.M.I.C.E., chief estimator, and Dr. William Macgregor, D.Sc., A.M.I.C.E., manager of the heavy civil engineering department.

MR. L. H. HALLING, at present on the south-eastern area sales staff of High Duty Alloys, Ltd., has been appointed sales area manager for Scotland, Northern Ireland and the counties of Cumberland, Durham and Northumberland.

RATES OF WAGES IN THE BUILDING TRADE [AS FROM OCT. 3, 1949]

(Every endeavour is made to ensure accuracy, but we cannot be responsible for errors)

KEY TO SCHEDULE OF GRADE RATES

Grade Classification,	A	A1	A2	A3
Craftsmen	2/10	2/9½	2/9	2/8½
Labourers	2/3½	2/3½	2/3	2/2½

Town.	Grade.
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Aldeburgh	A3
Aldershot District	A2
Alfreton U.D.	A
Alnwick	A1
Altrincham	A
Amble	A1
Amersham	A1
Ammanford	A
Andover	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashby-de-la-Zouch U.D.	A
Ashby Woulds U.D.	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone (parts of)	A1
Aylesbury	A2
Aylesby (Yorks)	A
Aylesham	A3
Bagshot	A2
Bakewell U.D.	A2
Banbury	A2
Barnard Castle U.D.	A1
Barnoldswick U.D.	A1
Barnsley	A
Barrow-in-Furness	A
Barrow-upon-Soar R.D. (exc. Thrussington A2)	A
Barry	A
Basford R.D. (exc. Willough-by-on-the-Wolds A2)	A
Basingstoke	A2
Bath	A
Batley	A
Baxterley	A1
Beaconsfield & District	A1
Beamish	A
Bearl	A
Bearpark	A
Beccles	A2
Bedale R.D.	A
Bedford	A
Bedlington	A
Bedwas	A
Beeston & Stapleford U.D.	A
Belper U.D.	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick District	A1
Beverley	A
Bexhill-on-Sea	A2
Biggleswade	A2
Billericay	A1
Billing	A
Billingham U.D.	A
Bilsthorpe	A
Birchington	A2
Birkenhead	*
Birmingham C.B.	†A
Bishop Auckland	A
Bishop's Stortford	A
Bispham	A
Blackburn	A
Blackpool	A
Blackwell R.D.	A
Blaydon U. D.	A
Blidworth	A
Blyth	A
Bognor Regis	A2
Boldon U.D.	A
Bolsover U.D.	A
Bolton	A
Bourne End	A1
Bournemouth District	A1
Bracknell	A2
Bradford	A
Bradford-on-Avon	A2
Braintree	A2
Breconshire, County of	‡A2
Brent Knoll	A2
Brentwood	A
Bridlington	A
Brierfield	A
Brighouse	A
Brighton	A1
Bristol	A
Broadstairs	A2
Bromsgrove U.D.	A
Brough	A
Broughton (Cheshire)	A
Buckley	A
Bungay	A3
Burnham-on-Crouch	A3
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A3
Buxton	A1
Byfleet	A
Calder Valley	A
Cambridge	A
Cannock U.D.	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A2
Carlisle	A
Carmarthenshire, Cnty.of	‡A2
Carnarvonshire, Cnty of	‡A3
Carnforth	A
Castleford	A
Caterham	A
Chapel-en-le-Frith	A1
Charmy Down	A
Chatham & District	A1
Cheadle (Staffs) R.D.	A
Chelmsford	A
Cheltenham	A1
Chepstow	A1
Chertsey	A
Chester	A
Chesterfield M.B.	A
Chesterfield R.D.	A
Chester-le-Street U.D.	A
Chichester	A2
Chippenham (inc. Chippen-ham Within and Harden-huish)	A2
Chorley	A
Clacton	A1
Cleethorpes	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville U.D.	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett	A
Conway	A1
Cornwall, County of	‡A2
Coventry C.B.	A
Cranbrook	A2
Cranleigh	A2
Crawley (Sussex)	A2
Crewe	A
Cromer	A1
Crowborough	A2
Cuckfield	A2
Dalton-in-Furness	A
Darlington District	A
Darwen	A
Deal	A2
Denbigh Town	A2
Derby C.B.	A
Devizes	A2
Devon, County of	‡A2
Dewsbury	A
Didcot	A2
Diss	A3
Doncaster C.B.	A
Dorking	A1
Dorset, County of (except-ing Poole and Wimborne A1)	A2
Dover	A2
Dovercourt	A1
Driffield U.D.	A1
Droitwich M.B.	A1
Dudley M.B.	A
Dunstable	A
Durham City	A
Eastbourne	A1
E. Glam. & Mon. Val.	A
East Grinstead District	A2
Eastwood (Notts.) U.D.	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A3
Epping	A
Exeter	A1
Fakenham	A3
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey U.D.	A1
Fleetwood	A
Flint	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough R.D. (Mid. pt.)	A2
Gateshead	A
Gillingham (Kent)	A1
Glossop	A
Gloucester	A1
Gloucestershire, Cnty. of	‡A2
Godalming	A2
Goole M.B.	A
Gosport	A
Grantham M.B.	A1
Gravesend	A
Great Yarmouth	A
Grimsby (Yorks.)	A
Grimsby R.D. (Lincs.)	A3
Guildford District	A2
Guilsborough	A1
Guiseley	A
Halesowen M.B.	A
Halifax	A
Halstead	A2
Haresfield	A1
Harlow	A
Harpenden	A
Harrogate	A
Hartlepool	A
Harwich	A1
Haslemere	A2
Hastings	A2
Hatfield (Herts.)	A
Haywards Heath	A2
Hemel Hempstead	A
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A2
Herne Bay	A2
Hertford	A
Hexham U.D.	A
Heysham	A
High Wycombe	A1
Highworth	A2
Hinckley U.D.	A
Hitchin	A1
Hoddesdon	A
Horley	A2
Horsham	A2
Horwich	A
Huddersfield	A
Hull	A
Hunstanton	A2
Huntingdon (Staffs)	A
Ilkley	A
Ingatestone	A1
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A2
Jarrow M.B.	A
Keighley	A
Kendal	A
Kenilworth U.D.	A
Kettering M.B.	A
Keynsham	A
Kidderminster M.B.	A
King's Lynn	A2
Kingskerswell	A1
Kingsteignton	A1
Kirkham	A
Knaresborough U.D.	A
Knowle	A1
Lancaster	A
Leamington M.B.	A
Leatherhead	A
Leeds	A
Leicester C.B.	A
Leighton Buzzard	A2
Letchworth	A1
Lewes	A2
Lichfield M.B.	A1
Lincoln C.B.	A
Littlehampton	A2
Liverpool	*
Llandudno	A1
Llanelly	A
London	*
Long Eaton	A
Loughborough M.B.	A
Louth M.B.	A2
Lowestoft	A
Loxton	A2
Luton	A
Lyneham (Devon)	A1
Macclesfield	A1
Maidenhead	A1
Maidstone	A1
Maltby	A
Maldon (Essex)	A1
Malvern U.D.	A2
Manchester	A
Manningtree	A1
Mansfield M.B.	A
March	A2
Margate	A2
Market Harborough	A1
Maryport	A
Matlock U.D.	A1
Melksham	A2
Melton Constable	A3
Melton Mowbray U.D.	A2
Merthyr	A
Middlesbrough	A
Middleton	A
Middlewich	A
Milford Haven	A2
Morecambe	A
Morley	A
Mundesley	A2
Nantwich	A
Nelson	A
Newark-on-Trent R.D.	A1
Newbury	A2
Newcastle-on-Tyne	A
Newcastle-under-Lyme	A
New Forest District	A2
Newmarket	A2
Newport, Mon.	A
Newport Pagnell	A2
Newton Abbot	A1
Northallerton Dist.	A
Northampton C.B.	A
North Shields	A
Norton Radstock	A1
Norwich	A
Nottingham C.B.	A
Nuneaton M.B.	A
Oakham U.D.	A2
Oldham	A
Ongar	A
Ormskirk	A
Ossett and Horbury	A
Oxford	A
Oxted	A1
Paignton	A1
Peterborough	A
" Soke	A1
Pickering	A3
Plymouth	A
Pontefract	A
Pontypridd District	A
Portishead	A
Portland Stoneyards	A
Portsmouth	A
Port Talbot	A
Preston	A
Pudsey	A
Pulborough	A2
Radnorshire, County of	‡A2
Ramsgate	A2
Rayleigh	A1
Reading	A
Redcar B.	A
Redditch U.D.	A
Redhill and Reigate	A
Ripon	A3
Rochdale	A
Rochester	A1
Rotherham	A
Rugby M.B.	A
Saffron Walden	A2
St. Albans	A
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sawbridgeworth	A
Saxmundham	A3
Scarborough	A
Scunthorpe	A
Selby	A
Sevenoaks	A1
Sheerness	A2
Sheffield	A
Shipley	A
Shoeburyness	A
Shoreham	A1
Shrewsbury M.B.	A
Sittingbourne	A2
Skegness U.D.	A1
Skipton U.D.	A1
Sleaford U.D.	A2
Slough	A1
Smethwick C.B.	†A
Snettisham	A2
Somerset, County of	‡A2
Southampton	A
Southend-on-Sea Dist.	A
Southport	A
South Shields C.B.	A
Spalding U.D.	A2
Stafford M.B.	A
Staines	A
Stamford M.B.	A1
Stantonwick	A
Stevenage	A1
Stockport	A
Stockton R.D.	A
Stockton-on-Tees	A
Stoke-on-Trent C.B.	A
Stoke Orchard	A1
Stourbridge M.B.	A
Stourport U.D.	A
Stowmarket	A3
Stratford-on-Avon M.B.	A1
Sunderland District	A
Sunningdale	A
Sutton Coldfield M.B.	A
Swaffham	A3
Swanage	A2
Swansea	A
Swindon	A2
Swinton U.D.	A
Tamworth M.B.	A
Tenterden	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A3
Thorpe Bay	A
Thurrock U.D.C. Area	A
" North of, to Billericay	A1
Tilbury	A
Todmorden	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Trowbridge	A2
Tunbridge Wells	A1
Tynemouth C.B.	A
Uppingham (Salop)	A1
Uttoxeter U.D.	A2
Wakefield	A
Wallsend B.	A
Walsall C.B.	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick M.B.	A
Wellington R.D.	A1
Wells (Norfolk)	A3
Welwyn	A
Welwyn Gar. City	A
West Bromwich C.B.	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
Weston-super-Mare	A1
Weybridge	A
Weymouth	A2
Whitby U.D.	A1
Whitstable and District	A2
Wickford	A1
Widnes	A
Wigan	A
Wigton	A3
Willington	A
Wilmslow	A
Wilts. County of	‡A2
Winchester	A2
Windermere	A3
Windsor and Eton	A1
Wisbech	A2
Witham	A1
Woking (District)	A1
Wokingham	A2
Wolverhampton C.B.	A
Woodbridge	A3
Worcester C.B.	A
Workington	A
Worksop M.B.	A
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A2
Wylam	A
Wymondham	A3
York	A

* For Birkenhead, Liverpool, and London the rates are :—Craftsmen, 2s. 11½d.; Labourers, 2s. 5d. In the case of London the rate beyond the 12-mile radius is :—Craftsmen, 2s. 11d.; Labourers, 2s. 4½d.

† Plus 2d. per working day.

‡ This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters, Joiners and Plumbers in all towns and districts receive 2d. per day Tool Allowances.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 2/- per hour. Women introduced to carry out work other than craft processes, 1s. 8d. per hour.

For Building Trade Wages in Scotland, see page 466.

PRICES CURRENT OF MATERIALS*

NOTE.—These prices apply to large quantities of materials at works at London stations, or site, in London area as stated. Prices for smaller quantities ex merchant's warehouse will of course be higher. Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of softwoods are for cash on delivery.

BRICKS, etc.

	£ s. d.
First Hard Stocks	9 5 0
Second Hard Stocks	8 15 0
Mild Stocks	7 10 0

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.

2½-in. Nominal Phorpres Bricks.	At Maiden Lane Stn., per 1,000	To Sites in West Central District per 1,000
	s. d.	s. d.
Commons	73 0	85 0
Cellular	67 11	85 0
Keyed	75 0	87 0
Cellular Keyed ...	69 11	87 0
Rustics	93 0	105 0
Cellular Rustics ...	87 11	102 11
Single Bullnose	93 0	105 0
Sandfaced	103 0	115 0
Cortex Facing Brick ...	88 0	100 0

* At King's Cross Stn. † ex King's Cross Stn.

	£ s. d.
Best blue Pressed Staffs. (London Stns.) ...	18 16 0
Do. Bullnose (London Stns.)	20 2 0
Blue Wire Cuts (London Stns.)	16 14 6
Midhurst Lime Bricks (Del. London Sites)	8 5 3
Uxbridge Whites (Del. London Sites) ...	6 4 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.		£ s. d.
2½ in. ... 16 18 6	3 in. ...	19 16 0

GLAZED BRICKS (London Stns.). The prices given below are now subject to a percentage addition of 27½ for Best, and 22½ for Second quality.

Best White Ivory and Salt Glazed	D'ble Stretchers ...	53 10 0
	D'ble Headers ...	48 10 0
Stretcher	40 0 0 One side & two ends	54 10 0
Headers	39 10 0 Two sides & one end	56 0 0
Quoins, Bullnose & 4½ in. Flats	Splays and Squints	52 0 0

Second Quality, £2 0s. per 1,000 less than best. Cream and buff, £2 0s. extra over white. Other colours Hard Glaze, £5 10s. 0d. extra over white.

Haulage to site 20s. 1,000.

PARTITION SLABS.

Delivered Central London Area.
HOLLOW CLAY PARTITION BLOCKS.
London Brick Company.

Minimum Lorry Loads. Keyed.	s. d.
2" per yd. sup. 120 yds. ...	3 1
2½" " " 100 " ...	3 4
3" " " 100 " ...	4 0
4" " " 84 " ...	4 7

Half blocks *add* 2s. per yard super to above prices.

CLINKER CONCRETE.

2" per yd. sup. ...	2 7	3" per yd. sup.	3 6
2½" " " ...	3 1	4" " "	4 6

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super ...	3 1
Size 12 x 9 x 2½" " " ...	3 4
Size 12 x 9 x 3" " " ...	4 0
Size 12 x 9 x 4" " " ...	4 7

HEMPSTEAD—KEYED TWO SIDES.

12 x 9 x 2" ...	3 1	12 x 9 x 3" ...	4 0
12 x 9 x 2½" ...	3 4	12 x 9 x 4" ...	4 7

Per yard super d/d. Free on site, London. Plus 2d. for smooth one side, and 4d. for smooth both sides.

STONE.

	s. d.
BATH STONE—	
Monks Park ...	5 4
St. Aldhelm Box Ground ...	6 4
Delivered in railway trucks at South Lambeth, G.W.R., per ft. cube.	
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly. ... per ft. cube	6 1½
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	
F.O.R. Quarries, Wirksworth, Derbyshire. Random blocks up to 3 ft. 3 in. long and not over 10 cu. ft. ... per ft. cube	22 6
Slabs—Random sizes sawn 2 sides, up to 5 ft. long and not over 15 ft. super, ½ in. per ft. super ...	4 7
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) ... per ft. super	9 4
6 in. rubbed two sides, ditto " "	10 10
3 in. sawn two sides slabs (random sizes) ... " "	4 5
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) " "	2 4
1½ in. to 2 in. ditto ... " "	2 1½
HARD YORK—	
Delivered at any Goods Station, London	
Scrappled random blocks ... per ft. cube	13 4
6 in. sawn two sides landings to sizes (under 40 ft. super) ... per ft. super	10 0
6 in. rubbed two sides, ditto " "	11 10
4 in. sawn two sides slabs (random sizes) ... " "	6 5
3 in. ditto ditto ... " "	4 10
2 in. self-faced random flags per yd. super	19 9

CEMENT.

	£ s. d.
Best British Portland Cement. Standard Specification delivered London area.	
6-ton loads and upwards site ... per ton	3 0 6
1- to 6-tons site ...	3 5 6
In non-returnable paper bags charged at 9/– net per ton or 6d. each net per sack in lots of less than 1 ton.	
In non-returnable jute sacks charged at 9/- per ton.	
In returnable jute sacks charged at the rate of 35/6 net per ton of cement of 1/9½ net per sack in lots of less than 1 ton. Credit on return at 1/6 net per sack,	
In returnable cotton sacks charged at the rate of 3/4 net each sack. Credit on return at 3/– net each sack.	
"Ferrocrete" Rapid Hardening Cement at 6-ton loads and upwards site ...	3 6 6
1- to 6-tons site ...	3 11 6
In paper bags 9/– per ton extra.	
"Aquacrete" Water Repellent cement, 31/6 per ton on ordinary "Blue Circle" prices. In paper bags, 9/– per ton extra.	
Red, Buff or Khaki "Colorcrete" in 6-ton lots ...	5 2 0
In paper bags 9/– per ton extra.	
Other colours, according to colour. In 4-ton lots from 173/– to 397/– per ton (including paper bags).	
"Snowcrete" White Portland Cement (In free paper bags) ...	11 14 0
Under one ton ... per cwt.	0 14 0
"417" Cement (Ultra Rapid Hardening) Delivered Site London Area in 6-ton lots and upwards ...	4 2 0
In paper bags 9/- per ton extra.	
Super Cement (Waterproof), bags extra ...	4 12 0
Cullamix Tyrolean Finish...£7 15s. 6d. to (1-ton lots and upwards, including cost of paper bags).	9 9 0

£ s. d.		£ s. d.
Parian Cement 8 6 9	Keen's Cement, White	8 6 9
	Pink	8 1 9

PLASTER.

£ s. d.		£ s. d.
Coarse, Pink 5 11 9	Sirapite, Coarse	5 15 6
" White 5 19 9	" Finish	6 3 6

Above prices for 1-ton loads and over London Area.

Blue Lias Lime, inc. bags 6-ton lots ... 5 17 6		Hydrated Lime, 6-ton lots ...	4 1 6
Granite Chips, 6-ton lots ... 2 3 0		Lump, Lime, 6-ton lots ...	3 15 3
		Hair, per cwt. ...	4 4 6

Stourbridge Fireclay in paper bags £4 2s. 0d., 6-ton lots at railway depot.

PLASTER AND WALL BOARDS.

Plaster (Gypsum) Boards ⅜ in. thick, 600 yds. and over in one delivery 1/9 sq. yard.

Wall Boards—3 and 4' wide, 6 to 12', ⅜" thick. 600 yds. and over in one delivery, 2/– sq. yd. Carriage paid to site.

SAND.

D/D site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		s. d.
Thames Ballast ...	per yd.	15 9
Pit Ballast ...	"	15 10
Pit Sand ...	"	15 2
Washed Sand ...	"	17 0
¾ in. shingle ...	"	15 2
¾ in. Broken Brick ...	"	17 6
Pan Breeze ...	"	10 4

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons ... Per 1,000

f.o.r. London

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire districts ...	9 14 6
Ditto, hand-made, ditto ...	11 11 0
Ornamental ditto ...	12 4 0
Hip and valley tiles—Hand-made ... (per dozen) —Machine-made ...	0 19 5 0 18 4

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES.

First-quality slates from Penrhyn or Portamadoc carriage paid in full truck loads to London Rate Station.

Per 1,000 actual	£ s. d.		£ s. d.
24 by 12 ...	69 18 0	18 by 10 ...	35 10 6
22 by 12 ...	61 4 4	18 by 9 ...	32 5 6
22 by 11 ...	55 0 6	16 by 10 ...	31 13 3
20 by 12 ...	50 7 0	16 by 8 ...	24 13 9
20 by 10 ...	46 6 3		

NOTE: Breakage in transit, purchasers' responsibility.

PLUMBERS' BRASS WORK.

Delivered in London

M.O.H.

S.D. BIB COCKS CRUTCH HEAD, FOR 1 TON.

½ in. 66/– ¾ in. 108/– per doz.

TOILET BIB COCKS FOR IRON.

½ in. 114/– ¾ in. 171/– per doz.

S.D. STOP COCKS FOR IRON.

¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
72/–	111/–	189/–	312/–	468/–	840/–	per doz.	

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
102/–	150/–	312/–	408/–	642/–	1056/–	per doz.	

DOUBLE NUT BOILER SCREWS.

¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
17/–	20/–	36/–	68/–	108/–	140/–	per doz.	

HEAVY CROYDON BALL VALVES.

¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.
97/–	150/–	263/–	394/–	570/–	per doz.	

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
23/6	33/–	41/–	79/–	107/–	139/– per doz.

BRASS SLEEVES.

¼ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
29/–	36/–	67/–	77/–	101/– per doz.					

LEAD TRAPS WITH BRASS CLEANING SCREWS

	1½ x 6 lb.	1½ x 6 lb.	2 x 7 lb.	3 x 7 lb.
Lead P.	71/–	89/–	143/–	219/– per doz.
Lead S.	87/–	108/–	176/–	291/– per doz.

SOLDER.—Plumbers' 3/1, Tinmen's 3/11, Blow pipe 4/– per lb.

Copper Tubes ...	1/11½	per lb. Basis.
Brass Tubes ...	1/11½	per lb. Basis.

Basis prices are subject to extras.

GLUE.

		£ s. d.
Best Scotch Glue ...	per ½ cwt.	4 9 9
Croid Glue ...	per lb.	9

VARNISHES, etc.

		Per gallon.
Oak Varnish ...	Outside	1 6 0
Fine do. ...	"	1 16 0
Fine Copal ...	"	1 15 0
Pale Copal ...	"	1 12 8
Floor Varnish ...	Inside	1 10 0
Fine Pale Paper ...	"	2 1 0
Hard Drying Oak ...	"	1 10 0
Fine Hard Drying Oak ...	"	1 12 0
Fine Copal Varnish ...	"	1 13 6
Best Do. ...	"	1 16 0
Best Japan Gold Size ...	"	1 15 0
Best Black Japan ...	"	1 8 6
Brunswick Black ...	"	1 4 6
Berlin Black ...	"	1 8 6
Knotting (patent) ...	"	1 12 6
French and Brush Polish ...	"	1 8 6
Liquid Dryers in Terebene ...	"	1 8 6

* The information given on these pages has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

See Note at top of preceding page.

PAINTS, etc.

		£ s. d.
Raw Linseed Oil (5 galls.).....	per gallon	16 9
Boiled Linseed Oil (5 galls.) ...	"	17 3
Genuine White Lead (free kegs)	cwt.	8 10 0
Genuine White Lead Paint (tins free)	gall.	2 8 6
Genuine Red Lead	cwt.	8 2 0
Putty (free packages)	cwt.	2 10 0
Size XD quality.....	f/kn.	8 0

Turpentine substitute can be obtained and prices vary according to quality from 3/10 gallon upwards.

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION.

	PER TON
R. S. Joists, cut and fitted	£34 0 0
Plain Compound Girders	£38 10 0
Stanchions	£46 0 0
In Roof Work	£58 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in. ...	30 1 0	½ in.	27 16 0
⅜ in. ...	29 6 0	⅝ in. to 2¼ in. ...	27 1 0
⅞ in. ...	28 11 0		

W.I. TUBES.

TUBES AND TUBULARS.

Galv. Class A.	List price, less	12½	per cent.
" " B.	"	7½	"
" " C.	"	Net.	
Black, " A	" less	33 per cent.	
" " B	"	22½	"
" " C	"	15	"

C.I. HALF-ROUND GUTTERS.—London Works, per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Prices ex Stop ends.
3 in.	2/5	2/2	7d.
3½ in.	2/9	2/5	7d.
4 in.	2/10	2/7	1/–
4½ in.	3/2	3/–	1/2
5 in.	3/5	3/3	1/3

O.G. GUTTERS.

3 in.	3/2	2/10	9d.
3½ in.	3/7	2/10	1/–
4 in.	3/7	3/–	1/2
4½ in.	3/9	3/5	1/3
5 in.	4/7	4/–	1/5

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe.	Bends. Angles.	Branches.
2 in.	5/–	2/7	3/10
2½ in.	5/4	3/–	4/6
3 in.	5/11	3/8	5/6
3½ in.	6/9	4/5	6/5
4 in.	7/9	5/3	7/8

NET PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES.—London Prices, ex stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	6/–	4/7	5/6
2½ in.	6/4	5/2	6/10
3 in.	7/1	5/7	8/3
3½ in.	7/11	6/10	9/6
4 in.	9/1	7/9	11/1

L.C.C. COATED DRAIN PIPE.

	cwt. qr. lb. per yard. in 9 fts.	Bends.	Branches.
4 in.	1 1 17	16/6	11/6 20/2
6 in.	2 0 1	24/7	23/10 41/4

	Per ton basis in London. £ s. d.
IRON.—Staffordshire Crown, Merchant quality.....	29 5 0
IRON—Staffordshire Marked Bars	38 0 0
Mild Steel Bars	25 13 6
Mild Steel Hoops	27 10 0

Ex Merchant's Stock per ton (two-ton) lots.

	£ s. d.
Soft Steel Sheets C.R. and C.A.—	
20 gauge	32 5 0
24 gauge	33 10 0
26 gauge	34 10 0
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—	
20 gauge	41 17 0
24 gauge	43 17 0
26 gauge	46 12 0
Galvanised Flat Sheets, C.R. and C.A.—	
20 gauge	42 19 6
24 gauge	44 19 6
26 gauge	47 14 6
	Per ton. £ s. d.
Cut Nails, 3 in. and up, 1 ton lots	41 15 0

ALL NET.

METAL WINDOWS.—Standard sizes suitable for complete houses, included all fittings, paintings two coats, and delivery to job, average about 6s. 0d. to 6s. 3d. per foot super.

LEAD, etc.

(Deliveries in London, 5 cwts.)	Per ton. £ s. d.
LEAD.—Sheet, English, 3½ lb. and up	134 0 0
Pipe in coils	135 5 0
Soil pipe	145 5 0
Compo pipe	148 15 0

NOTE.—Country delivery, 10s. per ton extra, lots under 3 cwt., 4s. per cwt. extra and over 3 cwt. and under 5 cwt., 3s. per cwt. extra. Extra if cut to size. Old lead, ex London area, per ton £90 0s. 0d. Buyers pay carriage.

GLASS.

SHEET GLASS, ORDINARY GLAZING QUALITY.

CUT SIZES.	Per ft. Super. d.
18 oz.	4½
24 oz. clear.....	5½
26 oz.	7½
32 oz.	9½

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft.
Rolled plate, ¼ in.	7½
Rough cast, 3/16 in.....	8½
Rough case, ¼ in.	8½
Figure rolled, and Cathedral white	7½
Figure rolled, and Cathedral tinted	10½
Rolled sheet	6
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	9½

Rolled plate is the same price as rough cast double rolled...

	Per ft. d.
Wire Cast, ¼ in. thick	9½
Georgian Wired Cast	10

HOLLOW GLASS BLOCKS.

		s. d.	
P.B.	2—5½ in. x 5½ in. x 3⅜ in.	2 6	each net
P.B.	3—7½ in. x 7½ in. x 3⅜ in.	3 10	"
P.B.	32—7½ in. x 7½ in. x 3⅜ in.	3 10	"

Radiused Corner Brick to match up with—

P.B.	2	4 6	"
P.B.	3	6 0	"
P.B.	32	6 0	"

TIMBER, SOFTWOODS and HARDWOODS.

HOME GROWN TIMBER PRICES.—*See Statutory Rules and Orders*, 1947. No. 94, price 5d. net.

IMPORTED SOFTWOODS PRICES.—*See Statutory Rules and Orders*, 1947, No. 731, price 1s. 1d.

IMPORTED HARDWOODS PRICES.—*See Statutory Rules and Orders*, 1947, No. 1524, price 1s. 1d. net.

Note.—The above can be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2.

The RAPID ACTING, yet SLOW DRYING Stripper

● *GOES ON WORKING* when others have evaporated

● *COSTLY 2nd APPLICATIONS* reduced or obviated

N.B. Where other jobs can be got on with, and especially for thick coats, Quickstryp 31 is even more satisfactory. (PRE-WAR QUALITY now available.)

QUICKER-STRYP 32

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SOFTWOODS FROM CZECHOSLOVAKIA

Five-year Trade and Financial Agreement

IMPORTS of soft wood from Czechoslovakia are provided for in the five-year Trade and Financial Agreement, an Inter-Governmental Debts Agreement, and a Compensation Agreement signed in London on September 28.

Under the Compensation Agreement, Czechoslovakia has undertaken to pay a global sum of £8 million during the next 10 years in compensation for British property affected by various Czechoslovak measures of nationalisation, expropriation, etc. The Debts Agreement provides a scheme of repayment over a number of years for Czechoslovak Government debts totalling £28 million. Towards all her financial obligations to this country Czechoslovakia will pay £15 million during the next five years. In order to help Czechoslovakia to meet these payments, and to pay for exports from the United Kingdom and for United Kingdom trading services, the United Kingdom has agreed to permit the import annually of £5.75 million of Czechoslovak manufactured goods.

The Trade and Financial Agreement provides for the supply to the United Kingdom of essential goods for the first year of the agreement to the value of about £4.8 million, including softwood (15,000 standards) and other kinds of timber, machinery (£250,000), and miscellaneous raw materials, industrial goods and foodstuffs. Czechoslovakia will supply in the later years of the agreement £4.5 million annually of essential supplies, including softwood, machinery and foodstuffs. In each year also Czechoslovakia will import from the United Kingdom and from the Colonies goods in easy supply to a value of £1.5 million.

TIMBER CONTROL

Mr. Wilson Announces "Tightening Up"

THE President of the Board of Trade, MR. HAROLD WILSON, speaking at a conference of the Merseyside Federation of Labour League of Youth at New Brighton, on October 2, said that new measures for tightening up the control of timber to stop black-market activities are to be announced within the next few days.

Mr. Wilson said that the Government had plans for building 1,250 new factories; already some 800 factories were in hand, and he had been inspecting derelict sites in Merseyside with a view to finding sites for new Government factories. It would not have been possible for the Government to have made the progress it had in providing houses but for the system of controls.

Mr. Wilson went on to say he had been greatly concerned during the last two or three weeks by the loss of timber through the activities of the black market which was endangering the housing drive, shipbuilding, and other essential industries, and the needs of the export industries for packing materials. If it had not been for controls there could be no doubt that much of what timber had been available would have been diverted to more frivolous and unnecessary building work.

Railway Awards Scheme.

The Railways Executive has introduced a system of awards for the best maintained lengths of permanent way.

The Scottish Builder

Fishermen's Housing, Dunbar

A VISITOR to Scotland cannot be other than impressed by the efforts that are being made to introduce stabilising influences into the smaller towns by the introduction of suitable new industries or the resuscitation of older ones which have, for one reason or another, lost ground. Dunbar (writes a correspondent) is a case in point. Here fishing as an industry has long been on the wane, for which a harbour badly silted up and available only at certain states of the tide, lack of modern trawlers and an acute shortage of housing for fishermen conveniently placed to the port are chiefly responsible. Today a few small lobster and crab boats are the sole survivors of a once thriving fishing fleet. But for the Port Seton boats, which use Dunbar as convenient, the harbour would be empty indeed.

Dunbar Town Council, which is already engaged in housing at the West Barns estate, has taken the wise initial step of building a number of houses hard by the port. To be let only to fishermen, these dwellings have been designed by Mr. Basil Spence, O.B.E., F.R.I.B.A., to fit into this attractive little harbour. The levels have been utilised to provide flatted houses, each with its separate entrance, while the mottled hard-burnt East Lothian brick marries well with the red sandstone and whinstone of the existing houses, some of which date from the early 18th century. Once the younger men find in good and convenient housing an inducement to follow their fathers' trade, the vital step will have been taken to restoring the prosperity of the port, beside which the necessary dredging of the harbour and the provision of up-to-date craft become relatively simple problems.

Housing Figures for August

SCOTLAND'S 100,000th new home since 1945 was completed in August. This is stated in the August Housing Summary of the Department of Health for Scotland, which shows that altogether under the post-war housing programme 100,468 new homes have now been provided in Scotland. This figure, however, includes 12,661 homes provided by conversion and adaptation of existing premises, requisitioning and in service camps. The total of new houses completed is 87,807, made up of 55,631 permanents and 32,176 temporaries.

The number of new permanent houses completed in August was 1,495. In addition 253 homes were provided by conversions, etc. As is usual in holiday months the number of completions is below normal: in August, 1948, 1,312 permanent houses were completed.

Of the new permanent houses completed last month 1,348 were erected by local authorities and the Scottish Special Housing Association; 95 by private enterprise and 52 by Government Departments.

Building Industry and Housing Programme

PROBABLY the greatest difficulty in housing now is that the size of Scotland's building industry is insufficient to cope with the demands made upon it by modern needs, declared the RT. HON. ARTHUR WOODBURN, M.P., P.C., Secretary of State for Scotland, when he spoke on "How Scotland is Governed" at the Stirling Day School of the National Council of Labour Colleges, in the Miners' Welfare Hall, on September 24. Questioned as to the Government's responsibility for housing, Mr. Woodburn pointed out that the Government's responsibility was to encourage and help local authorities to discharge their responsibility in providing houses and to ensure that the national resources in this respect were fairly shared amongst the different local authorities.

The actual execution of these programmes depended almost entirely on the efficiency and numbers of the building trade, and probably the greatest difficulty in housing now was that the size of Scotland's building industry was insufficient to cope with the demands made upon it by modern needs. The scarcity of young people to go into industries was making it difficult for them to develop and, as England had a long way to go to satisfy her own requirements, it was quite impossible to expect any recruitment of English labour to the Scottish building industry.

New Scottish Bridges

THE North of Scotland Hydro-Electric Board will shortly hand over to the county councils of Perthshire, Dumbartonshire and Ross and Cromarty three new bridges which have been built in connection with their Tummel-Garry, Loch Sloy and Loch Fannich projects. All designs were approved by the Royal Fine Art Commission.

In Perthshire, near Pitlochry, the Aldour Bridge has been built across the Tummel to replace the old Clunie Bridge, which will be submerged by the loch formed by the Pitlochry Dam.

This is a bridge built in modern style similar to the Waterloo Bridge, London. It is a three-span, low-arch, reinforced concrete structure, with an over-all length of 301 ft. 6 in.

In Dumbartonshire a bridge was needed to carry the trunk road from Balloch to Crianlarich over the tailrace channel of the Loch Sloy power-station. This bridge, constructed on an improved alignment for the trunk road, has approach roads about 400 yards in length, providing the first major realignment of the Loch Lomondside road.

The design of the bridge, which has two spans and is built of reinforced concrete, has parapet walls of rubble masonry from stone obtained from the Coregrograin Quarry opened by the Board to supply the Sloy works.

In Ross-shire the Grudie Bridge power-station of the Loch Fannich project has also involved a new bridge to carry the main road from Garve to Gairloch over the tailrace.

The engineers for the Aldour and Grudie bridges were Sir Alexander Gibb and Partners, and for the bridge at Loch Sloy James Williamson and Partners.

The architects for the Aldour and Sloy bridges were Messrs. Tarbolton and Ochterlony, Edinburgh, and for the Grudie Bridge Mr. James Shearer, F.R.I.B.A., F.R.S.A., of Dunfermline.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from February, 1 1949. Every effort is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification A Craftsmen.... 2/10 Labourers.... 2/3½

Aberdeen .....A	Dumfriesshire ....A	Inverness .....A	Perthshire .....A
Ayrshire .....A	Dundee .....A	Inverurie .....A	Peterhead .....A
Banff .....A	Dunoon .....A	Kincardineshire ..A	Renfrewshire .....A
Berwickshire .....A	East Fife .....A	Kinross-shire .....A	Rothesay .....A
Bridge of Allan....A	East Lothian .....A	Lanarkshire .....A	Roxburgshire ....A
Broughty Ferry....A	Edinburgh .....A	Midlothian .....A	St. Andrews .....A
Clackmannanshire A	Fifeshire .....A	Monifieth .....A	Selkirkshire .....A
Doune.....A	Forfarshire .....A	Moray and Nairn ..A	Stewartry .....A
Dunblane .....A	Glasgow .....A	Newport .....A	Stirlingshire .....A
Dunbartonshire....A	Greenock .....A	Peeblesshire .....A	Stornoway .....A
Dumfries .....A	Hamilton .....A	Perth .....A	Tayport .....A
			West Lothian .....A

The Scottish N.J.C. award on which this is based provides for variation to current rates of Apprentices and Trainees' wages, which will be increased according to scale.

The Information given in this table is copyright.

Painters' rates : 2/10 Grade A ; 2/9 Grade B. (Grade B towns are Banff and Moray and Nairn.)

NEW BUILDINGS

Bishopbriggs.—Plans in hand for extensions, etc., to be carried out at Caddens for the Glasgow Royal Cancer Hospital, for which the architects are John Keppie & Henderson & J. L. Cleave, 196, West Regent-st., Glasgow, W.C.2.

Glasgow.—Plans are in hand for cold-storage buildings, etc., to be erected for the Scottish Farmers' Dairy Co., Ltd., at Possil-rd., Possil-park, and for which the architects are Charles J. MacNair, Elder & Ridley, 529, Sauchiehall-st., Charing Cross, Glasgow, C.2.

Glasgow.—Corporation to erect at Cockerhill 36 houses, for which the architect is Mr. Archibald J. Jury, Housing Offices, Glasgow Cross, The Trongate, Glasgow.

Greenock.—Plans are to be prepared for a public school at Inverkip-rd., for which the architects are the Renfrewshire Education Staff at the Education Offices, Glasgow-rd., Paisley, Renfrewshire.

Lanarkshire.—Plans in hand for scheme of 32 houses to be erected at Tannockside on the Burnside housing site and for which the architect is J. S. Rhind, 191, Ingram-st., City, Glasgow, C.1.

Lanarkshire.—Plans to be prepared for new classrooms, etc., estimated at £11,850, at Dalbeth Convent.

Rutherglen.—Plans are in hand for alterations, additions and reconstruction scheme at new Cartwright factory, for which the architect is K. F. Manson, c/o the Scottish Wholesale Co-operative Society, Ltd., 119, Paisley-rd., Tradeston, Glasgow.

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BUILDING JOINERS' WAGES

Conference Request for 6d. an hour Increase

THE annual conference of the Amalgamated Society of Woodworkers, representing 198,000 joiners in the building, shipbuilding and furniture industries, at Blackpool, on October 4, defeated their executive committee by 131 votes to 90 and passed a resolution calling for an increase of sixpence per hour in the basic rate for members employed in building.

Delegates claimed that incentive bonus and payment by results schemes had proved to be a failure, and that an increase in the basic rate would be the only way for them to meet the rising cost of living.

Mr. G. I. BRINHAM, for the executive, urged delegates to turn down the resolution and allow the committee to consider the possibility of a lieu rate.

He said that if they proceeded with a general application for an increase in the basic rate, it was inevitable that the sliding scale arrangements would be in question.

"We should do nothing that would seriously interfere with the cost of living scale now applying in the building industry," he added.

Delegates decided unanimously, with the support of the executive, to ask the National Federation of Building Trade Operatives to take up the question of the five-day week with the Employers' Federation.

The conference also agreed to allow local branches to affiliate to local Labour parties, and recommended a 100 per cent. increase in the political levy. It was suggested that the additional finance would enable branches to support candidates for election to local authorities.

FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

OCTOBER 11.

†***Ipswich C.B.**—122 houses at Maidenhall estate. B.E. & S. Dep. £2 2s. Tenders by November 3.

OCTOBER 12.

†***Hampshire C.C.**—Primary schools at Andover and Ashley New Milton. County A., The Castle, Winchester. Dep. £2 2s. each school. Tenders by November 2.

†**Hampshire Police Authority.**—Ten police houses at 5 sites. County A., The Castle, Winchester. Dep. £1 1s. each site.

***Malvern U.D.C.**—Ten houses at Mathon-rd., West Malvern. C. C. Judson, A.M.I.C.E. Dep. £2 2s.

†***Surrey C.C.**—Kitchen, dining-room and lecture rooms at Kerry House, Kingston Hill. County A., County Hall, Kingston-on-Thames. Dep. £2 2s.

OCTOBER 13.

†***Surrey C.C.**—Kitchen and dining-room at Manor-la., Sutton. County A., County Hall, Kingston-on-Thames. Dep. £2 2s.

†**Surrey C.C.**—Kitchen and dining-room at Tolworth. County A. Dep. £2 2s.

†***Surrey C.C.**—Erection of new primary school at Park Farm, Beddington. County A., County Hall, Kingston-on-Thames. Dep. £2 2s.

OCTOBER 14.

†***Bucks C.C.**—Sub-Divisional Police Station, Tatling End, Denham. County A., County Offices, Aylesbury. Dep. £5 5s.

†***Lincoln (Parts of Kesteven) C.C.**—Additional accommodation at Fire Brigade headquarters, Harlaston-rd., Grantham. F. J. Lenton & Partners, architects, 16, Firkin-st., Grantham.

OCTOBER 15.

†***Gt. Yarmouth C.B.**—20 memorial homes for old people at Bulman's Nursery site, Northgate-st. B.E., Town Hall. Tenders by November 4.

†**North Cotswold.**—Six houses at Longborough and 4 at Evenlode. Thomas Rayson (F.), 29, Beaumont-st., Oxford. Dep. £2 2s. Tenders by October 31.

†**Stockport T.C.**—Erection of junior school at Didsbury-rd., Heaton Mersey. E. Gwyn Thomas, Director of Education, Town Hall. Dep. £3 3s.

†**Worsborough U.D.C.**—40 houses at Elm House estate. J. Shepherd, E. & S., Saville House, Worsborough Bridge, Barnsley. Dep £3 3s. Tenders by October 24.

OCTOBER 17.

†**East Retford T.C.**—92 houses with paths, drainage, etc., at Hallcroft estate. T. C., Municipal Offices. Dep. £2 2s.

†***Lincoln (Parts of Kesteven) C.C.**—Kitchen at Spitalgate Junior Girls' and Infants' School. County A., County Offices, Sleaford, Lincs. Tenders by October 31.

Marshland R.D.C.—Four houses at Outwell. Architect, Council Offices, Alexandra-rd., Wisbech. Dep. £1 1s.

†***New Romney T.C.**—Six houses, Churchlands estate. Culpin & Son (F.), 3, Southampton-pl., London, W.C.1. Dep. £2 2s.

OCTOBER 18.

†**Gipping R.D.C.**—26 houses at 3 sites. R. K. Wickham, C., Council Offices, Needham Market, nr. Ipswich. Dep. £3.

Maldon T.C.—Seven pairs of aged persons' dwellings at Tenterfield-rd. B.E., Municipal Offices. Dep. £2 2s.

OCTOBER 19.

Beverley R.D.C.—12 houses at Cherry Burton. G. Palfreyman, engineer, surveyor and architect, 36, Market-pl. Dep. £1 1s.

†***Norfolk E.C.**—Dining-room and kitchen, Costessey County primary school. W. O. Bell, Chief Education Officer, Stracey-rd., Norwich. Dep. £2.

†***Stourbridge T.C.**—72 houses in 2 groups at Norton estate, Part 11B. B.E. & S., Council House. Dep. £3 3s.

Tavistock R.D.C.—Ten houses with site works at Horrabridge. Vanstone & Partners, National Provincial Bank-chbrs., Tavistock. Dep. £3 3s.

†***Winchester T.C.**—18 houses at New Stanmore estate. A. S. Wilson & Partners, chartered quantity surveyors, 8, Princes-st., Storey's-gate, Westminster, S.W.1. Dep. £2 2s.

OCTOBER 20.

***Carlisle City.**—Kitchen and dining-room at Girls' High School and Creighton School. City E., 18, Fisher-st. Dep. £2 2s. each.

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Edinburgh T.C.—16 houses and 12 shops at Moredun area. City A., City-chbrs.

OCTOBER 21.

†***Derby C.B.**—Junior and infants' school, Hampshire-rd. Thos. W. East (F.), Boro' A. Dep. £2 2s. Tenders by November 28.

†***Derby C.B.**—Meals dining-room and kitchen, St. Peter's School, Devonshire-st. Thos. W. East (F.), Boro' A. Dep. £2 2s. Tenders by November 28.

OCTOBER 22.

***Bromsgrove R.D.C.**—24 houses with service road, sewers, etc., at Shawhurst-la., Wythall. Oswald A. Wainwright, F.R.I.C.S., Union-chbrs., 63, Temple-row, Birmingham. Dep. £2 2s.

Edinburgh T.C.—Work in various trades for 212 houses and 15 shops. City A.

Melksham U.D.C.—Ten garages at Stratton's Land site and 7 at Portman-rd. D. H. McKerchar, A.M.I.C.E., Town Hall. Dep. £2 2s.

***Surbiton T.C.**—Repairs to roof of main building and destructor house at disposal works, Lower Marsh-la. B.E. & S., Council Offices. Dep. £2 2s.

OCTOBER 24.

Bushey U.D.C.—42 houses and flats at Highwood-ave. E. & S., Council Offices, Rudolph-rd. Dep. £3 3s.

Carmarthen T.C.—Construction of cattle market. B.E. & S., Municipal-bldgs. Dep. £2 2s.

Ches. C.C.—Day nursery at Hurdsfield. Boro' A., Macclesfield Corporation, 3, Jordangate, Macclesfield. Dep. £2 2s.

Cwmamman U.D.C.—(1) 30 houses at Maesyrhendre, Follard-rd., Garnant; (2) site works for same. Gilbert & Davies, Castle-st., Ammanford. Dep. £2 2s. for (2) or £5 5s. for both.

***Ealing T.C.**—Site works and erection of prefabricated sports pavilion at Walpole Park. B.E. & S., Town Hall. Dep. £2 2s.

***Gt. Yarmouth C.B.**—Erection of County Primary Infants' School, Magdalen College estate. B.E., Town Hall. Dep. £2 2s.

OCTOBER 26.

†***Denbighshire E.C.**—First stage of extensions to form multilateral school at Brynhyfryd Grammar School, Ruthin: Gilbert D. Wiles, County A., Grove Park, Wrexham. Dep. £5 5s.

***Smethwick C.B.**—(1) One pair of houses at West Park-rd.; (2) 1 block of 3 houses at Warley-rd. and Queens-rd.; (3) 4 Duplex dwellings at Halford-st. B.E. & S., Council House. Dep. £2 2s.

OCTOBER 27.

***Calne and Chippenham R.D.C.**—Two pairs of houses, Yatton Keynell site. Edwards & Webster, architects, 23, Market-pl., Chippenham. Dep. £3 3s.

***Sevenoaks R.D.C.**—20 houses at Park-la., Kemsing. E. & S., "Inglewood," Oak Hill-rd. Dep. £2 2s.

***Sunderland C.B.**—Central cleansing clinic at Hendon-rd. Ed. Architect, Town Hall. Dep. £2 2s.

OCTOBER 28.

***Okehampton R.D.C.**—14 houses at Hatherleigh, Devon. Leslie G. Bailey, E. & S., 3, Station-rd., Okehampton. Dep. £2 2s.

OCTOBER 29.

†***Leics C.C.**—Erection of Lutterworth Primary School, Loughborough Thorp Acre Secondary Modern School for Boys and Science Block at Loughborough College. T. A. Collins (A.), County A., County Offices, Grey Friars, Leicester. Dep. £5 5s.

Renfrewshire C.C.—Two primary schools at Howwood-rd., Johnstone. R. Urguhart, County C., County bldgs., Paisley. Dep. £5 5s.

OCTOBER 31.

***Cuckfield U.D.C.**—12 houses at Box's Nursery estate, Lindfield. John L. Denman (F.), 27, Queen's-rd., Brighton, 1. Dep. £2 2s.

***Peterborough Joint Education Board.**—Extensions at Fulbridge County Primary Schools. S. Dodson & Son (L.), Museum-bldgs., Priestgate, Peterborough. Dep. £2 2s.

West Riding Standing Joint Committee.—Police houses at various sites. County A., County Hall, Wakefield. Dep. £1 1s.

NOVEMBER 1.

Southwell R.D.C.—40 houses with roads and sewers at Kirklington-rd., Rainworth. S. Cooper, architect & S., 8, Westgate, Southwell. Dep. £2 2s.

NOVEMBER 7.

***Shropshire E.C.**—Junior School at Albrighton. Jackson & Edmonds, 65, New-st., Birmingham, 2. Dep. £2 2s.

NOVEMBER 8.

***Chesterfield R.D.C.**—Four houses, Wingfield-rd. housing site. J. B. Wikeley, E. & S. Dep. £2 2s.

NOVEMBER 15.

***Bournemouth C.B.**—Secondary school at Charminster. Boro' A. Dep. £5 5s.

NO DATE.

Malton U.D.C.—26 houses at Peasey Hills-rd. site. Guy D. Channon, architect, Market-st., Malton. Dep. £2 2s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

NOVEMBER 1.

***Luton T.C.**—Heating and hot water installation at Ashcroft-rd., County Primary School. B.E. Dep. £2 2s.

ROADS, SEWERAGE AND WATER WORKS

OCTOBER 17.

Bedworth U.D.C.—Roads and sewers at Bulkington estate. E. & S., 134, Newtown-rd. Dep. £3 3s.

OCTOBER 18.

Bolton C.B.—Roads and sewers at Lever Edge-la. (South) site. B.E. & S.

†**Crosby T.C.**—Roads and sewers at Edge-la. estate, Thornton. B.E. & S. Dep. £2 2s.

OCTOBER 20.

Southampton C.B.—Reconstruction of part of Oak Tree-rd. B.E. Dep. £2 2s.

OCTOBER 24.

Brighouse T.C.—Road and sewer works at Deep-la. site, Clifton. B.E., Commercial-st. Dep. £1.

Hepton R.D.C.—Construction of Wadsworth sewerage. A. Brooksbank, M.I.C.E., 14, The Exchange, Bradford. Dep. £2 2s.

OCTOBER 29.

Nantwich U.D.C.—Roads and sewers at The Mount estate. E. & S., Brookfield House. Dep. £2 2s.

Reading C.B.—Site preparation at Whitley Wood-rd., site No. 10. B.S., Town Hall. Dep. £2 2s.

Reigate T.C.—Construction of surface water drainage at Redhill. B.E. & S. Dep. £5 5s.

OCTOBER 31.

Sevenoaks U.D.C.—Advance preparation of sites at Kippington Grange (1949) scheme. E. & S. Dep. £2 2s.

NOVEMBER 7.

Andover T.C.—Roads and sewers at Mead Hedges. B.S. Dep. £2 2s.

NOVEMBER 9.

Billingham U.D.C.—Roads and sewers at Roseberry-rd. Eric G. Lediard, 4, Eldon-sq., Newcastle-on-Tyne, 1. Dep. £5 5s.

Whitlesey U.D.C.—Construction of Eastrea and Coates sewerage. G. B. Kershaw & Kaufman, 1, Victoria-st., S.W.1. Dep. £5 5s.

GENERAL BUILDING WORK

(LONDON)

Battersea.—Shops, Maisonettes, Flats and Houses.—Housing Comm. propose eight maisonettes and six flats above shops and also two houses on Lavender-hill (site No. 2). Est. cost of acquisition and development, £56,500. Plans by Howes and Jackman, FF.R.I.B.A., 1, Verulam-bldgs., W.C.1.

Battersea.—Shops and Dwellings.—Housing Comm. propose erecting eight shops and eight dwellings on the site of Nos. 207-217, Lavender-hill (site No. 1) (between Elspeth and Mysore-rds.). Est. cost of acquisition and development, £32,000. Plans by Howes and Jackman, FF.R.I.B.A., 1, Verulam-bldgs., W.C.1.

Battersea.—Flats.—Architects for proposed six flats for B.C. on site of Nos. 24, 26 and 28, Cambridge-rd. are Howes and Jackman, FF.R.I.B.A., 1, Verulam-bldgs., W.C.1.

Battersea.—Flats.—Housing Comm. propose 10 flats on site of Nos. 203-217, Battersea Park-rd. and 1a, Newtown-st., to plans by Howes and Jackman, FF.R.I.B.A., 1, Verulam-bldgs., W.C.1. Est. cost of acquisition and development, £22,150.

Battersea.—Houses.—Howes and Jackman, FF.R.I.B.A., 1, Verulam-bldgs., W.C.1, are architects for 13 houses proposed by B.C. on Lavender Sweep site. Est. cost of acquisition and development, £24,800.

Battersea.—Flats.—Housing Comm. propose nine flats on site of Nos. 2-8, Meath-st., for which the architects are Howes and Jackman, FF.R.I.B.A., 1, Verulam-bldgs., W.C.1. Est. cost of acquisition and development, £9,600.

Battersea. — Warehouse and Offices. — J. Stanley Beard and Bennett, 101, 103, Baker-st., W.1, are architects for proposed warehouse and offices at Ponton-rd. for Carlsberg Distributors, Ltd.

City of London.—Reconstruction.—Plans are being prepared by Sir Giles Gilbert Scott, R.A., 3, Field-st., Gray's Inn, W.C.1, for proposed reconstruction of the Guildhall.

Dagenham.—Maisonettes.—Architect's Dept. of Edward Glenny and Sons, Ltd., builders, 28, Ripple-rd., Barking, have prepared plans for further 20 maisonettes on Foxlands estate for B.C.

Hendon.—Maisonettes.—Mr. J. C. S. Soutar, F.R.I.B.A., "Wyldes," North End, Hampstead, N.W.3, is preparing detailed plans for 84 maisonettes for B.C. at Hyde Cottage, Edgware-rd. (scheme No. 25).

Hendon.—Houses.—Housing Comm. approved lay-out plans prepared by Boro' S. for 22 houses at Tenterden-gdns. (scheme No. 23).

Hendon.—Dwellings.—Boro' S. has prepared revised plans for 26 houses for aged persons to be erected at Brent Hill (scheme No. 5). A tender has been provisionally accepted.

Hendon.—Flats.—Boro S. has prepared plans for 72 flats at Malcolm-cres. (scheme No. 20).

"THE BUILDER" PRICES

LEAD

The Ministry of Supply announced on September 30 that from that date the price of good soft pig lead was reduced by £3 from £122 to £119 per ton delivered. Later, the Ministry announced that from October 5 the price of good pig lead was reduced by a further £4, from £119 to £115 per ton delivered.

LEAD PRODUCTS

Following the first announcement made by the Ministry, Associated Lead Manufacturers, Ltd., announced that the basis prices of lead products were amended as below, the prices being operative as from 8 a.m., September 30, and cancelling those previously advised.

	Reduced £ s. d.	*Basis Price.* £ s. d.	
Dry White Lead Ground White Lead	2 10 0	143 10 0	per ton
	2 5 0	160 15 0	per ton
White Lead Paint	6	2 8	per gal.
MagnetHardGloss	No change	2 5	0 per gal.
Red Lead and Litharge ...	2 10 0	135 10 0	per ton
Red Lead Ground in Oil	2 10 0	156 0 0	per ton
Red Lead Paint Type I ...	6	2 10	6 per gal.
Lead Sheet ...	3 0 0	138 0 0	per ton
Lead Pipe ...	3 0 0	139 5 0	per ton
Lead Shot ...	3 0 0	147 15 0	per ton
Basic Lead Sulphate ...	2 10 0	124 10 0	per ton

Following the second announcement of the Ministry Associated Lead Manufacturers circulated the following price amendments, operative from 8 a.m., October 5 :—

	Reduced. £ s. d.	*To-day's Basis Price.* £ s. d.	
Dry White Lead Ground White Lead	3 10 0	140 0 0	per ton
	3 5 0	157 10 0	per ton
White Lead Paint	1 0	2 7	6 per gal.
MagnetHardGloss	No change	2 5	0 per gal.
Red Lead and Litharge ...	3 10 0	132 0 0	per ton
Red Lead Ground in Oil	3 10 0	152 10 0	per ton
Red Lead Paint Type I ...	1 0	2 9	6 per gal.
Lead Sheet ...	4 5 0	133 15 0	per ton
Lead Pipe ...	4 5 0	135 0 0	per ton
Lead Shot ...	4 0 0	143 15 0	per ton
Basic Lead Sulphate ...	3 0 0	121 10 0	per ton

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Hendon.—Offices, etc.—Daydon Griffiths, F.R.I.B.A., 12, Nottingham-pl., W.1, is the architect for proposed offices and caretaker's quarters at "The Studio," Holmbrook-dr., N.W.4.

Hendon.—Factory and Warehouse.—Howell & Brooks, F.R.I.B.A., 4, Queen Victoria-st., are architects for proposed factory and warehouse at Nevett's premises, Colindale-ave., N.W.9.

Hendon.—Factory Extension.—Swannell and Templeman, F.R.I.B.A., Raymond-bldgs., Gray's Inn, W.C.1, are architects for proposed extension to Camilatone's factory, Edgware-rd., N.W.9.

Mill Hill.—School Extension.—M.C.C. propose to acquire land for an extension of Dollis Hill Primary School.

Wood Green.—Flats.—Boro' E. has prepared plans for six flats on sites of Nos. 40-44, Marlborough-rd.

Wood Green.—Factory Extension.—Sir Guy Dawber, Wilson and Fox, 122, Wigmore-st., W.1, are architects for an extension to Universal Plastics factory, Brook-rd.

Wood Green.—Welfare Block.—Architect's Dept. of the Eastern Gas Board (Tottenham Div.), Woodall House, Lordship-la., have prepared plans for a new welfare block at their Lordship-la. establishment.

(PROVINCIAL)

Amble.—U.D.C. Surveyor to prepare plans for houses and flats for old people.

Bakewell.—U.D.C. approved lay-out plans for remainder of Moorhall estate.

Boldon.—U.D.C. considering erection of 100 "No fines" houses at West Boldon. N. Hondmarch is the surveyor.

Burnley.—B.C. approved layout plans for:—340 houses and flats at Burnshaw estate; 12 houses on various other sites; scheme for new fire station; sketch plan of day nursery at Hargher Clough; approved plans for extensions to Wood Top Works, Villiers-st., for Joseph Lucas, Ltd.; alterations to Plumbe-st. for Whitham Bros.; new offices at Canal-st. Mill for J. Stansfield & Son., Ltd., and extensions and alterations at Peel Mill, Gannow-la., for Geo. Walmsley & Sons, Ltd.

Burton-on-Trent.—B.C. propose 100 houses on Manners site at £126,166.

Caernarvonshire.—E.C. propose kitchen and dining-room at Portmadoc Grammar School.

Cheshire.—E.C.'s 1950-54 schools programme provides for 35 primary, 70 secondary, one special services and four further education schools. County A., E. Mainwaring Parkes, F.R.I.B.A.

Coventry.—T.C. propose new kitchen and dining-rooms at Little Heath School, Old Church-rd.; plans by W. S. Hattrell & Partners, 1, Queen's-rd., Coventry.

Darwen.—T.C. received additional allocation of 100 houses.—Propose erection of flats in Bolton-rd. G. Ashton, surveyor.

Ellesmere Port.—U.D.C. approved preliminary plans for 20-acre civic centre, estimated to cost £140,000-£150,000.

Hebburn-on-Tyne.—Jarrow & Hebburn Co-op. Society to proceed with proposed branch stores, Victoria-rd. West.—Durham County E.C.'s school building programme includes a technical college, Victoria-rd. West.—U.D.C. to erect a further 60 houses.—U.D.C. is pressing for permission to proceed with first section of Campbell-st. extension scheme.

Heywood.—B.C. surveyor to prepare plans for reconstruction of destructor works.—B.C. approved plans for:—Extensions to tannery at Vale-st. for Silvester Litton, Ltd., Roeacre Tannery, Heywood; extensions to garages at Birch, for Heywood Motors, Ltd.; public-house, "Three Arrows" inn, at Three Lanes End, Pilsworth, for J. W. Lees & Co., Ltd. (Brewers), Middleton Junction.—B.C. to acquire site a Waterfold-la. for houses.

Jarrow-on-Tyne.—T.C. received sanction to borrow £66,050 for 50 Newland houses on South Leam-la. estate and 94 houses on west side of tunnel road at £116,921.—An R.C. primary school is proposed at Alnwick-gr.—Dawe Bros., Westgate-rd., Newcastle-on-Tyne, have inquired about a site on the housing estate for the erection of a cinema.—T.C. is planning erection of 84 flats for slum dwellers.—Consett Iron Co., Ltd., Consett, are planning the establishment of a basic brick plant at Palmers Yard.—Durham C.C. to erect a metalwork room at Central Modern School and a new infants' school in Taunton-av.—Jarrow & Hebburn Co-op. Society, Albert-rd., Jarrow, is to extend its offices to plans by C.W.S. Architects' Dept., 90, Westmorland-rd., Newcastle-on-Tyne.—G. C. Young, 12, Grange-rd., Jarrow, is architect for extending Jarrow Permanent Building Society's premises in Grange-rd. West.

Leigh.—T.C. seeks approval to erect 62 houses and 20 flats on a site north of Wigan-rd. and Nel Pan-la. by direct labour.

Middlesbrough.—T. A. Crawford, 80, Borough-rd., Middlesbrough, has prepared plans for alterations to institute in Grange-rd. for Apostleship of the Sea.—Bank alterations are to be carried out in Linthorpe-rd. for Yorkshire County Savings Bank to plans by Tennant & Smith, Ropergate, Pontefract.—Elite House (Middlesbrough), Ltd., propose small clothing factory and showrooms in Woodlands-rd., to plans by T. A. Crawford 80, Borough-rd.,

Middlesbrough.—L. Thirkell, butcher, Union-st., Middlesbrough, proposes small meats factory in York-rd. to plans also by T. A. Crawford.

Newcastle-on-Tyne.—12 houses are to be built in St. Cuthbert's-rd. for Rochester & Kirk. Architects, Dryden & Shaw, 6, Market-st., Newcastle.

Newcastle (Staffs).—A milk-heating and preparation factory is to be built by Newcastle Dairymen's Association at South Gosforth. Architect, R. Burke, 10, Lambton-rd., Newcastle.

Newcastle (Staffs).—A school for 560 scholars is to be built at Blakelaw. Architect, R. Burke, 10, Lambton-rd., Newcastle.

Northwich.—R.D.C. approved sketch plans for flats at Weaverham.

Oxford.—Regional Hospital Board approved improvement and conversion schemes at various hospitals, totalling £85,545.

Rochdale.—B.C. approved plans for:—Dust extractor plant house, Guilford-st., for James Taylor (Rochdale), Ltd.; rebuilding of 112-114, Yorkshire-st., for S. Casket, Ltd.; petrol-filling station, motor showrooms, workshops and offices, Moore-st., for Motor Repairers, Ltd.; drawing offices, Coldwall-st., for Dexine Rubber & Ebonite, Ltd.; offices and sanitary accommodation, Crawford-st., for F. S. Ratcliffe (Rochdale), Ltd.—T.C. propose extensions to workshops at Mellor-st. Depot; 28 houses and 7 shops, Kirkholt estate.

Rotherham.—B.C. approved plans for:—18 houses, Barnsley-rd., for A. Watson; 18 houses, Claremont-st. and Pitt-st., for A. Ramsey; extensions to works at Greasboro'-st., for Rotherham Forge and Rolling Mills Co., Ltd.; industrial building, Brinsworth-st., for James Jackson & Co., Ltd.; storage building, Alsing-rd., for Howell & Co., Ltd.—B.C. propose adapting Park Mount as children's home, also additional 38 houses at Broom Valley site.

Shardlow.—J. H. Thorpe & Partners, 23, St. James-st., Derby, are architects for 12 houses; Browning & Hayes, 11, Irongate, Derby, for 6 houses, and F. S. Antliff & Son, Draycote, nr. Derby, for 14 houses, all for R.D.C. D. G. McVinnie (surveyor) has prepared plans for a further 14.

Sheffield.—T.C. propose new retail market at £480,000. W. G. Davies, City A.

Tynemouth.—T.C. received sanction to borrow £48,396 for 60 houses at Moor Park; £307,110 for 266 houses on Marden Unit; £9,800 for eight houses at East End, and £141,594 for 116 houses at Marden.

Wigan.—T.C. seek loan of £126,280 for 96 houses on section 4 of Norley Hall estate.

TENDERS

* Denotes *accepted*
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification*
¶ Denotes *accepted by H.M. Government Departments.*

Birmingham.—Repairs to nurses' home at Coventry and Warwickshire Hospital, for Regional Hospital Board: *Q. Moss & Sons, Ltd., £6,365.

British Railways (London Midland Region).—Contracts placed by L.M.R.: Mills Scaffold Co., Ltd., Bredbury Steel Works, Woodley, nr. Stockport, provision of scaffolding, safety sheets, etc., for renewal of roof coverings at Liverpool (Central) Station; Johnson Bros. (Steel Erectors), Ltd., 5-7, Victoria-st., London, S.W.1, supply and erection of steelwork for Liverpool (Central) and Bradford (Exchange) Stations); C. & T. Painters, Ltd., Mordaunt-rd., Harlesden, N.W.10, cleaning and painting of St. Pancras Goods Depot; G. H. Morris, Ltd., Union Bankchbrs., Deansgate, Bolton, for labour for cleaning and painting span roofs at Bradford (Exchange) Station; Wellerman Bros., Ltd., Dunst., Sheffield 3, filling over piers and waterproofing bridge at Apperley Bridge, and repairs to wing walls and abutments of bridge over Fleetla. at Methley; Demolition & Construction Co., Ltd., 3 St. James'-sq., London, S.W.1, demolitions and temporary works at Bradford (Exchange) Station; Arundel (Contractors), Ltd., 70, Harris-st., Bradford, cleaning and painting of stations between Leeds and Settle.

Burnley.—Extensions to Municipal College, for T.C.: ‡Direct Labour, £18,415.

Ceiriog.—Two blocks of four flats each and one block of four houses at Glyn Ceiriog, for R.D.C. R. W. Aubrey, S., Council Offices, Chirk:—

Francis Roberts & Sons, Ltd., Trevor, Wrexham	£12,260
Amos Phillips, Glynceiriog, Wrexham	11.961
*D. G. S. Clark, Pontfadog, Wrexham ...	11.828

Chesterfield.—10 houses at Pilsley, for R.D.C. J. B. Wikeley, A.M.I.C.E., E. & S.: *Parkin (Rotherham), Ltd., 247, East Bawtry-rd., Rotherham, £12,176 (subject to M.H. approval).

Dunbartonshire.—Houses at Yoker Hill-rd. site, Yoker. Norman MacFadzean, 137, West Regent-st., Glasgow, W.1, architect: John Lawrence (Glasgow), Ltd., Glasgow.

Durham.—Extensions to The Dainty Bakeries, South Moor. Architects, Marshall & Tweedy, Grainger House, Blackett-st., Newcastle: *D. & J. Ranken, Stockton-rd., Sunderland.

Galway.—Regional tuberculosis sanatorium at Merlin Park, N. J. S. White, Chief Architectural Adviser to Department of Health: *John Sisk & Son (Dublin), Ltd. (total estimated cost approx. £1,000,000).

Goole.—22 houses at Western-rd. site, for T.C. B.E. & S., Municipal Offices: *Bainbridge (Builders), Ltd., Brooke-st., Doncaster; electrical work: *A..Z. Electrical Contractors, 25, Adeline-st., Goole.

Greenock.—Alterations and additions at the Old Parish Council Chambers, West Stewart and Nicholson-sts. R. L. Rankine, architect, Old Harbour Trust Offices, Wallace-sq. General contractors: *Direct Labour Department, Laird-st.

Halifax.—Reroofing of Shercoat-rd. bus depot, for T.C.: *Direct Labour, £12,266.

Hendon.—Works for T.C. 20 houses at Kenilworth-rd. estate: *Roger Malcolm, Ltd., £22,982.

Hull.—24 flats at Southcoates-la. estate for T.C. City A., Guildhall. *Scruton & Co. (Builders), 79/80, Leonard-st., Kingston-on-Hull. (Subject to Ministry and Council confirmation.)

Kirkburton.—22 houses at Lepton, for U.D.C.: *T. W. Ansell, Ltd., Moor End-rd., Lockwood, Huddersfield.

Liverpool.—Works for City Council. Eight aged persons' flats and 28 houses at Woolfall Heath estate: ‡Hale & Williams, Ltd., 1, Heather-st., Liverpool 4, £50,564 (subject to M.H. approval); six flats at Burroughs Garden: ‡Direct Labour (cost not to exceed £9,000); 18 flats at Blenheim-st.: ‡Direct Labour (cost not to exceed £28,000) (all subject to M.H. approval); erection of secondary school for boys (No. 2) at Stapleton-av., Spike: ‡Morrison & Sons, Ltd., £117,462; foundations, drainage, sanitary blocks and site works, etc., for Belle Vale primary school (No. 2) at Besford-rd., Gateacre: ‡McK. S. (Contractors), Ltd., £49,490; erection of gymnasium at C. F Mott Training College, "The Hazells," Prescot: ‡McK. S. (Contractors), Ltd., £19,975.

¶London (Admiralty).—R.N.V.R. Headquarters, Cardiff, Alterations and additions, Messrs. R. E. J. Haines & Sons, Wyndham-rd. Works, Canton, Cardiff.

¶London (Air Ministry).—Contracts to value of £500 or over for week ended October 1. *Painting work*: J. and B. Abbott (Contractors), Ltd., Harrow, Middx.

¶London (M.O.W.).—Contracts placed by M.O.W. for week ended September 24:—

London: West Central P.O., High Holborn, Internal and external painting, C. & T. Painters, Ltd., Mordaunt-rd., Harlesden, N.W.10; Palace of Westminster, Reinstatement of bomb-damaged buildings, John Mowlem & Co., Ltd., 91, Ebury Bridge-rd., S.W.1; Somerset House, Strand, Internal painting and cleaning, C. & T. Painters, Ltd., Mordaunt-rd., N.W.10; 84, Strode-rd., Willesden, N.W.10, Central kitchen, C. & F. Bryen, Ltd., 170, Hornsey-la., N.6. *Anglesey (Wales)*: Temporary Sorting Office, Holyhead, Erection, Watkin Jones & Son, Ltd., Mount-st., Bangor. *Angus*: Lawside Academy, Dundee, Temp. classrooms, J. B. Stewart & Sons, Queen-st., Coupar Angus. *Essex*: Wanstead County High School, Redbridge-la., Loughton, Dining-room and kitchen, Charles S. Foster & Sons, Smarts-la., Loughton. *Lancs*: Liverpool (Bank) Telephone Exchange, Erection, Tysons (Contractors), Ltd., Dryden-st. and Oswald-st., Liverpool 5; Richard Fairclough Sec. School, Warrington, Hutted accommodation, Frank Warburton & Son, Chapel-la., Stockton Heath, Warrington; Waterloo Secondary School, Crosby, Dining-room and scullery, W. Kenney, Ltd., 92, Liverpool-rd., Maghull, Liverpool. *Middx*: Christchurch School, Cedar-rd., Teddington, Dining-room and kitchen, Proyer Miller & Co., Ltd., 12, Pownall-gdns., Hounslow. *Midlothian (Scotland)*: Eskgrove, Lasswade, Vaccine station, J. Monteith, Ltd., 6, White Hart-st., Dalkeith. *Northumberland*: Wylam, Telephone exchange, John Jackson & Sons, 72, Corporation-st., Newcastle-on-Tyne. *Notts*: Mansfield, Temp. telephone exchange, M. J. Gleeson, Ltd., 822, Chesterfield-rd., Sheffield; Rampton Hospital, nr. Retford, External painting, T. & G. Saxton, Mansfield Woodhouse, Notts. *Staffs*: Branch P.O., Rolfe-st., Smethwick, Extensions to office, H. M. Grant & Co., Ltd., 1791, Pershore-rd., Kings Norton, Birmingham. *Suffolk*: P.O., Southgate-st., Bury St. Edmunds, Workshop, Galbraith Bros., Ltd., 110, Victoria-rd., Diss, Norfolk. *Sutherlandshire (Scotland)*: Farr Public School, Bettyhill, Temp. classrooms, Kenneth McRae & Co., 8a, Scalesburn-rd., Wick. *Yorks*: D.P.E.C., Ltd., Barnard-rd., Bradford, Factory and administration block, J. Pullan & Sons Ltd., Marley-ter., Beeston, Leeds; St. Anne's R.C. School, Skipton-rd., Keighley, Kitchen and dining-room, Tom Smith (Otley), Ltd., 13, Market-st., Otley.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended September 24:—

Salop: Building work, M. A. Boswell, Ltd., Wolverhampton. *Merionethshire*: Road work, Gulistan-rd. Constructions, Ltd., Leamington Spa. *Warwick*: Painting work, F. Labbett & Sons, Nottingham. *Somerset*: Miscellaneous work, F. C. Spear, Ltd., Taunton. *Kent*: Concrete work, Bierrum & Partners, Ltd., Harrow-on-the-Hill. *Essex*: Road work, W. & J. Glossop, Ltd., Hammersmith, W.6.

Longbenton.—20 houses at Taylor-av., for U.D.C. A. E. Sweetman, M.I.Mun.E., E. & S., Council Offices, Forest Hall, Newcastle-on-Tyne: *G. S. W. Urban Development Co., Newcastle (subject to M.H. approval).

Nantwich.—12 houses at Spurstow, for R.D.C.: *G. Brookes & Son, Bunbury, £15,285

Newcastle.—Extensions to bakery at Acorn-st., Newcastle, for Marshall's, Bakers. Architects, Marshall & Tweedy, Grainger House, Blackett-st., Newcastle: *T. Clements & Son, Selborne-gdns., Newcastle.

Newcastle-on-Tyne.—Converting Myrtle Cottage into home for old men, for City Council. G. Kenyon, City A., 18, Cloth Market: *Applebys (Builders), Ltd., 15, Trafalgar-st., Newcastle-on-Tyne, £5,152.

Newcastle-on-Tyne.—12 bungalows at Longbenton estate, for City Council. G. Kenyon, City A., 18, Cloth Market, Newcastle: *Wesley H. Oliver, Ltd., West-rd., Newcastle-on-Tyne, £10,530.

Northumberland.—County primary school at Longbenton, for U.D.C. Plans by County A., County Hall, Newcastle-on-Tyne: *J. W. Urpeth, Bedlington, £166,912.

Northumberland.—12 police houses at County Constabulary Headquarters, The Kylins, for C.C. W. W. Tasker (F.), County A., County Hall, Newcastle-on-Tyne 1. Quantities by A. H. Davis: *J. Dodds & Sons, Morpeth, Northumberland.

Oldbury.—48 houses at Titford estate, for T.C.: *J. Ashmore (Builders), Ltd., Bromford-la., West Bromwich, £61,995.

Pembrokeshire.—Erection of Tenby new infants' school for C.C. Walter Barrett, M.B.E. (A), County A., County Offices, Haverfordwest.

George Argent & Co., Pembroke ...	£53,548
Hadsphaltic Construction Co., Ltd., Pembroke Dock	47.829
R. A. Buckle, Ltd., Prestatyn	47,054
Dudley Boswell & Co., Ltd., Wolverhampton	46,895
The Trevor Construction Co., Ltd., Swansea	46,643
H. H. Heaps, Tenby	43,865
*W. H. Phillips & Son, Ltd., Warren-st., Tenby, Pembs.	42,556

Pembrokeshire.—New office block at County Offices, Haverfordwest, for C.C. Walter Barrett, M.B.E. (A.), County A.

J. Ivor Jones, Johnston, Pembs....	£42,982
Hadsphaltic Construction Co., Ltd., Pembroke Dock	39,099
R. A. Buckle, Ltd., Prestatyn	37,559
Trevor Construction Co., Ltd., London, S.W.1	33,657
*Gibson & King, Ltd., Great North-rd., Milford Haven, Pembs.	32,710

Peterlee.—86 houses for Development Corporation: *Tarslag, Ltd., Stockton-on-Tees.

Raunds.—Eight houses at two sites, for U.D.C. G. Whittam, S., Council Offices, The Hall. Four at Raunds: *A. J. Potter & Sons, Ltd., Stanwick, £5,088; four at Stanwick: *Robert Marriott, Ltd., Rushden, £4,954.

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Rugby.—22 houses for R.D.C.: *Drury & Co., The Grange, Wigston Fields, Leicester.

St. Albans.—Alterations and additions to council offices, for R.D.C. Architect & S., 43, Upper Lattimore-rd.: *Cranwell Construction, Ltd., Thorneycroft House, Smiths-sq., London, S.W.1, £2,306 (subject to M.H. approval).

St. Austell.—Block of 4 houses at "Parklands," Nanpean, for R.D.C. Powell & Powell, architects, 3, Lower-terr., Torquay. *Davey & Hocking, Foxhole, St. Austell.

St. Austell.—36 houses at Poltair, for U.D.C. H. G. King, D.S.C., A.M.I.C.E., A.M.I.Mun.E., E & S.: *Facey, Lobb & Roberts, Ltd., Valley-rd., Mevagissey.

St. Austell.—Five houses at Pentillie, Mevagissey, for U.D.C. H. G. King, D.S.C., A.M.I.C.E., A.M.I.Mun.E, E. & S.: *Facey, Lobb & Roberts, Ltd., Valley-rd., Mevagissey.

St. Pancras.—Six flats at Oakford-rd. (No. 1) housing scheme, for B.C.:—

John J. Faherty	£18,373
M. J. Gleeson, Ltd.	17,860
Goddard & Phillips, Ltd.	17,541
William Willett, Ltd.	16,376
*Harry Neal, Ltd.	15,892

(Subject to L.C.C. loan sanction.)

Shrewsbury.—104 dwellings at Oakfield-rd. site, for T.C.: *Wilson Lovatt & Sons, Ltd., Clarence-st., Wolverhampton.

Skegness.—16 houses at Barnes-rd. estate, for U.D.C. R. H. Jenkins, E. & S., Town Hall:—

W. Greetham & Son, Ltd., Skegness...	£23,927
John Porter & Son, Skegness	23,875
*Skegness U.D.C.	22,512

Skipton.—Houses for R.D.C. 16 at Park-av. site, Sutton: *Walter Smith, Bingley; 18 houses and four flats at Grange-rd. site, Eastburn: *E. Turner, Ltd., Keighley, £26,485; 18 houses and four flats at Beckside, Carlton: *W. Pearson, Bradford, £27,010.

Tavistock.—Four bungalows at Drake-gdns. and eight houses at Greenlands estate, for U.D.C. W. E. Colston, S. Council-chbrs., Drake-rd.: *Richards & Son, Berealston, Tavistock, eight houses, £9,237; four bungalows, £4,480.

Thornaby-on-Tees.—32 houses for T.C. Plans by B.E.: *Direct Labour.

Welwyn.—32 houses (instalment No. 2) at Hawbush Common estate, for R.D.C. S., Council Offices, Welwyn By-Pass-rd. Quantities by Widnell & Trollope: *J. Dixon & Sons (Ware), Ltd., 22, Amwell End, Ware, Herts, £42,882.

Woolwich.—Works, for B.C.: 28 dwellings at Coldharbour estate: *Direct Labour, £42,984 (subject to L.C.C. loan sanction).

Six shops and flats at Horn Park section of Middle Park estate:

J. E. Webb & Co., Ltd.	£26,493
C. & D. J. Barwell, Ltd.	24,670
W. J. Stevens	22,454
E. H. Smith (Croydon), Ltd.	22,196
J. A. Proctor, Ltd.	21,825
Thomas & Edge Ltd.	21,806
Halse & Sons, Ltd.	21,139
Field-Davis, Ltd.	20,191
*Wellington Developments, Ltd., 584, Woolwich-rd., Charlton, S.E.7	19,732

(subject to L.C.C. loan sanction.)

Worcester.—Alterations and adaptations at 55, Broad-st., for T.C. C. C. Lampitt, 17, Goodwood-rd., Malvern Link, Worcs, £12,433.

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